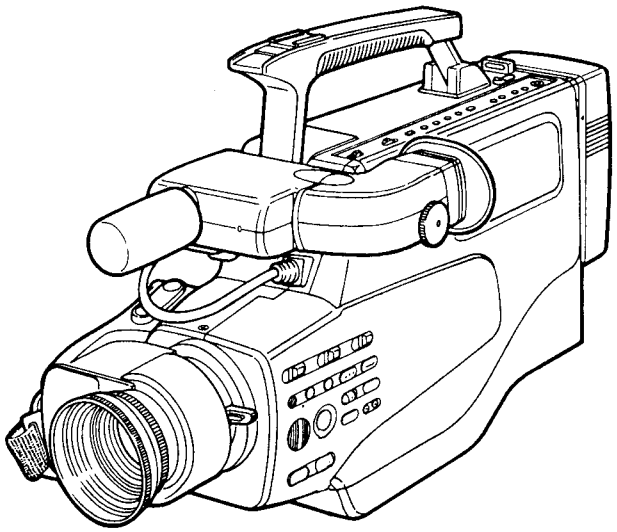
HITACHI

SERVICE MANUAL

TK | **No.3236E**

VM-3300E,E(AU)
VM-3380E(AU),E(AV)



Technical Data

MANUAL RELATED TO THE VM-3300E/3380E

TITLE	MODEL	MANUAL No.
Technical Information	VM-3300E SERIE	No. 3237E
RF UNIT	VM-RF70E	No. 3073E
POWER ADAPTER /CHARGER	VM-AC61E	No. 3073E

MC-Service

VHS

This video deck is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

SPECIFICATIONS

■ General	
Power requirements	9.6V DC
Power consumption	9.4 watts (When AUTO/MAN FOCUS switch is "MAN".)
Dimensions	124(W) x 205(H) x 368(D) mm
Weight	2.2 kg
■ Video Recorder Section	
Format	VHS
Record/playback system	2 video record/playback heads
Video signal	PAL colour & CCIR monochrome signals 625 lines
Tape speed	23.39 mm/sec.
Video output	1.0 Vp-p, 75 ohm
Mic input	−68 dBs, more than 1K ohm
Audio output	−8 dBs, less than 1K ohm
Earphone output	−26 dBs, (8 ohms terminal)
Fast forward/rewind time	Less than 8 minutes with E-180 cassette
■ Camera Section	
Scanning	625 lines/50 fields/25 frames
Required minimum illumination	7 lux
Camera device	1/2" C.C.D
Lens diameter	46 mm

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'! Critical parts are marked with ⚠ in the schematic diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CAMERA / RECORDER

Mai 1990 TOKAI WORKS

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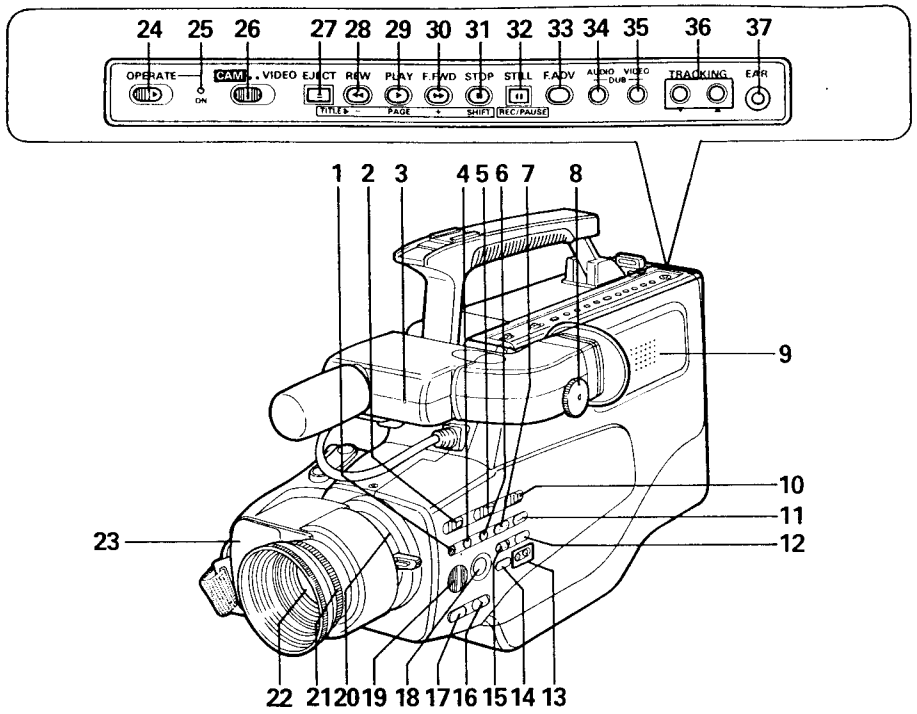

1. **DISPLAY Button**
   Pressing this button once causes a 5 digit linear time counter and battery indicator to appear in the camera/recorder's viewfinder.
   Pressing the button again will cause battery indicator and the amount of time remaining on the cassette in the camera/recorder.
   Press a 3rd time to delete all displays.
2. **SHUTTER Switch**
   Used to control the shutter speed during recording and/or record/pause (stand-by) mode.
3. **Record Indicator**
   Flashes for about 10 seconds when the SELF TIMER switch is pressed during record/pause (stand-by) mode and stays on to indicate recording starts.
4. **RESET/E-240 Button**
   When the linear time counter is displayed in the viewfinder, pressing the button resets the counter to "0:00:00". When the time-remaining read-out is displayed, pressing the button changes the display for extended length E-240 tapes, the indicator under the button will light.
5. **TIME LAPSE Switch**
   This switch allows time lapse and one shot recording.
6. **MEMORY Button**
   If this button is pressed while the linear time counter or time remaining read-out is displayed in the viewfinder, "M" appears in the display and it memorizes the tape position of "0:00:00".
7. **REVIEW Button**
   Used to review the last few seconds of the recorded segment in the record/pause mode.
8. **Diopter Control**
   To use the electronic viewfinder without eyeglasses on, turn this control knob for your optimum focus adjustment.
9. **Earphone Speaker**
   When you record or play a tape in the camera/recorder you can hear the audio through this speaker. To control the volume, adjust the SPEAKER volume control located on the bottom of the camera/recorder.
   NOTE: If feed back noise (howling) occurs during recording, turn the SPEAKER volume control down and attach the optional earphone to EARPHONE jack to monitor the sound.
10. **SELF TIMER Switch**
    This switch allows you to start recording after about 10 seconds when the switch is pressed.
11. **TITLE Button**
    Press this button to create and record personalized titles on your videos with the camera/recorder's built-in titler.
12. **INDEX Button**
    When this button is pressed during a recording, the camera/recorder records an invisible index mark on the tape.
    This is useful later when the tape is played back in your camera/recorder or a VTR that features the indexing system called "VHS Index Search System" because you will be able to quickly locate each index mark.
13. **DATE/TIME Set Buttons**
    These buttons are used to set the clock (time and date) in your camera/recorder so it can be recorded on your tapes for future reference.
14. **DATE/TIME Button**
    Press this button to display the date and clock in the viewfinder. Whenever the date and clock appear in the viewfinder, they will be recorded on the tape.
15. **NEGA/POSI Switch**
    Normally set to "POSI".
    Set to "NEGA" for special effects as in a negative film.
16. **AUTO/MAN FOCUS Switch**
    Set this switch to the "AUTO" position for automatic focusing, and to the "MAN" position for focusing with the focus ring.
17. **PUSH AUTO Focus Button**
    Auto focusing can be also performed during manual focus mode by pushing this button.
18. **FADE Button**
    During recording you can add a professional touch to your recordings by fading in and out of scenes.
    NOTE: When you use FADE button to fade in and out, the sound will also fade in and out with the picture.
19. **IRIS Control**
    When this control is in the "AUTO" position, the iris is controlled automatically. Turn this control to the right or left for manual iris control.
20. **Zoom Ring (Manual Zooming)**
    The picture size can be magnified 8 times with the use of the zoom feature. Just rotate the zoom ring for a close up (T) or wide angle (W) picture. Macro close-up, as close as 1 cm from object, is feasible.
21. **Focus Ring**
    Do not attempt to manually turn the focus ring when the camera/recorder is in the auto focus mode.
22. **Lens**
    F1.4 (8.7 ~ 70 mm) 8:1 power zoom lens features with auto focus and auto iris functions.
23. **Auto Focus Window**
    To automatically focus the camera lens, this window transmits and receives infrared light which is reflected off the subject. Make sure you don't obstruct this window when recording.
24. **OPERATE Switch**
    Press this switch to turn camera/recorder on. Press again to turn camera/recorder off.
    OPERATE light illuminates when this switch is pressed and camera/recorder is on.
25. **OPERATE/Dew Indicator Light**
    Flashing of the light indicates dew condensation on camera/recorder mechanism. While this light is flashing, the unit will not operate. If this occurs, eject the tape and leave the power on. When the light stops flashing, the unit can be operated.
26. **VIDEO/CAM Select Switch**
    This switch changes the camera/recorder to the record mode or to the playback mode. The switch must be in "CAM" position for recording.
27. **EJECT Button**
    Press to insert or remove the cassette.
28. **REW Button**
    Press this button during stop or fast forward mode, and fast-rewinding starts. "REWIND" indication appears in the viewfinder whenever the linear time counter or time remaining is present. Press the button during playback of tape, and the tape is played back in the rewind direction approximately 3 times faster than the normal speed to confirm the recorded contents. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement.
    NOTE: You can also visually scan backward when the camera/recorder is record/pause (stand-by) mode by pressing and holding this button.
29. **PLAY Button**
    Used for playback of tape recorded in the SP mode.
    NOTE: When the camera/recorder is record/pause (stand-by) mode, pressing and holding this button will play the tape at normal.
30. **F.FWD Button**
    Press this button during stop or rewind mode, and fast-forwarding starts. "FAST FWD" indication appears in the viewfinder whenever the linear time counter or time remaining is present. Press the button during playback of tape, and the tape is played back in the forward direction approximately 3 times faster than the normal speed to confirm the recorded content. Press PLAY button to return to normal playback mode or press STOP button to stop tape movement.
    NOTE: You can also visually scan forward when the camera/recorder is record/pause (stand-by) mode by pressing and holding this button.
31. **STOP Button**
    The STOP button is used to stop playback, rewind, and fast forward operations. The STOP button has no effect during record operation.
32. **STILL/REC/PAUSE Button**
    When this button is pressed during recording, the tape stops and the camera/recorder enters the record/pause (stand-by) mode. When this button is pressed again, the tape runs to resume recording. This button may be also used to display a still picture during playback mode.

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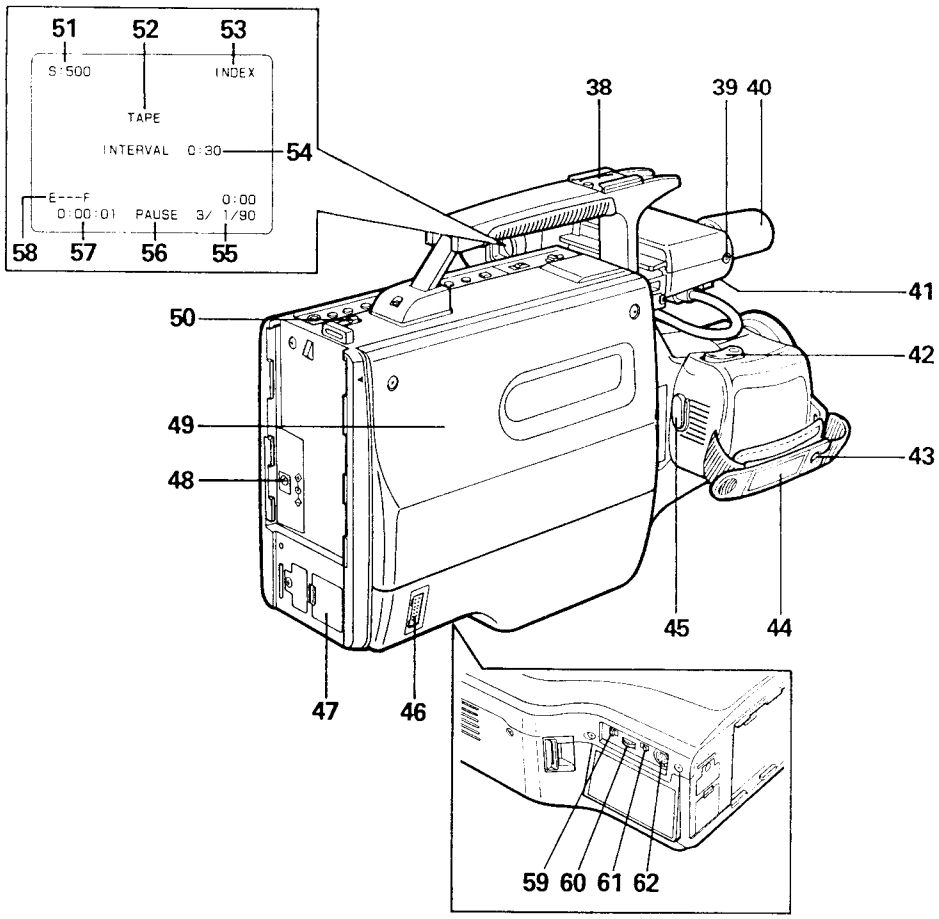


33. **FRAME ADV Button**
Press this button while viewing a still picture. The frame advances each time this button is pressed.

34. **AUDIO DUB Button**
This button is used to record new audio in place of existing audio without erasing the video.

35. **VIDEO DUB Button**
This button is used to record new video in place of existing video without erasing the audio.

36. **TRACKING Control**
Used when playing a tape recorded on another VTR. Adjust for best picture. Ejecting the cassette returns the tracking to the normal position.

37. **EARPHONE Jack**
Sound being recorded by the microphone or played back may be monitored by earphone to this jack.

38. **Accessory Shoe**
Used to attach the camera light.

39. **MIC Jack**
Connect an external microphone (Not supplied) here to record sound from the external microphone.
NOTE: Connecting an external microphone automatically switches off the built-in microphone.

40. **Microphone**
Sensitive to sounds coming from the direction in which the camera is pointed.

41. **MIC NORMAL/WIND Switch**
This switch is used to reduce noise that occurs due to wind. Place the switch in the "NORMAL" position for normal use.

42. **Power Zoom Switch**
This switch performs zooming electrically.
"W": Picture becomes wider gradually.
"T": Picture becomes telescopic gradually.

43. **Lens Cap Tab**
Place the lens cap on this tab when you are ready to record a scene. The tab also prevents the lens cap from swinging around on its cord.

44. **Hand Strap**
Adjust to best fit to your hand.

45. **Record Start/Stop Button**
This button is used to control the camera/recorder. When this button is pressed with the camera/recorder set to the recording mode, the tape runs to start recording.
When this button is pressed again, the tape stops and the camera/recorder enters the record/pause (stand-by) mode.

46. **AV OUT Jack**
Connect the audio/video output cable to this jack and to the audio and video inputs of your TV/monitor receiver. You may also connect the optional RF converter unit to this jack and your TV receiver.

47. **Clock Battery Compartment**
Pull the tab to open the cover and install the clock battery (provided).

48. **DC IN 9.6V Jack**
When using the AC adaptor/charger, connect one end of the DC cord (provided) to this jack and the other end to "DC OUTPUT" of the AC adaptor/charger. When using the car cord (optional), connect this jack and the car's cigarette lighter socket.

49. **Cassette Holder**
Press EJECT button to open the cassette holder. Be aware of the cassette direction when inserting.
NOTE: Power source must be connected to open the cassette holder.

50. **Battery Eject Lever**
Release the battery attached to the video camera/recorder.

51. **SHUTTER SPEED Indicator**
Indicates the selected shutter speed.

52. **TAPE Indicator**
When the record start/stop button is pressed, if a cassette without its safety tab is inserted or there is no cassete, "TAPE" appears for several seconds.
When the tape reaches near the end during shooting, "TAPE END" flashes.

53. **INDEX Indicator**
See page 19 for details.

54. **INTERVAL Indicator**
Appears in the time lapse and one-shot recording modes.

55. **DATE/TIME Indicator**
Indicate the date/clock during the record or record/pause (stand-by) mode. You can record the clock and/or date with object when recording.

56. **MODE Indicator**
Indicates the operating modes;
- "REC" appears during the record mode.
- "REWIND" appears during the rewind mode.
- "FASTFWD" appears during the fast forward mode.
- "PAUSE" appears during the record/pause (stand-by) mode.

57. **LINEAR TIME COUNTER**
Shows linear time counter and time remaining.

58. **BATTERY Indicator**
Indicates the battery condition;
- When the battery is fully charged, the display reads "E---F". When the battery is very near empty, only one dash remains. When the last dash starts blinking, you should find an alternative power source or recharge the battery.

59. **MIC MIX (ON/OFF) Switch**
This switch lets you add additional comments (or music) to a tape while you are copying a tape from your camera/recorder onto another VTR.

60. **SPEAKER Volume Control**
This control lets you increase or decrease the sound level of the built-in earphone speaker.

61. **PAL/MESECAM Select Switch**
When recording and playing back a PAL signal, set this switch to "PAL". When recording and playing back a SECAM (system B & G) signal, set this switch to "MESECAM".

62. **AV IN Jack**
Connect the audio/video input cable to this jack and to the audio and video outputs of your TV or VTR for recording TV programme.

CHAPTER 2 DISASSEMBLY

1. CASE REMOVAL

1-1. Left Case

1. Turn the EVF neck in the direction of arrow (A). (See Fig. 2-1)
2. Remove nine (9) screws holding the left case.
3. Open the left case in the direction of arrow (B).
4. Disconnect connector CN406 on the main circuit board. (See Fig. 2-2)

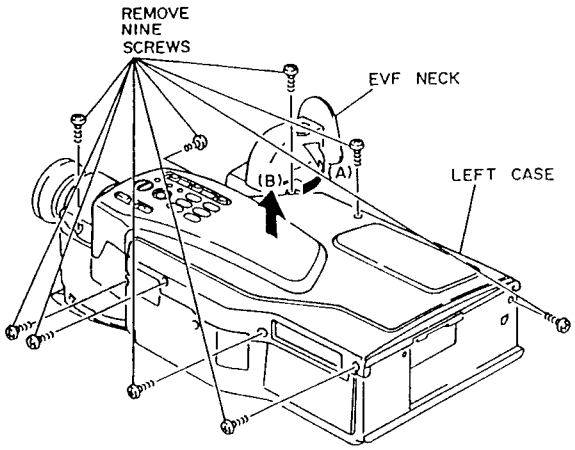


Fig. 2-1

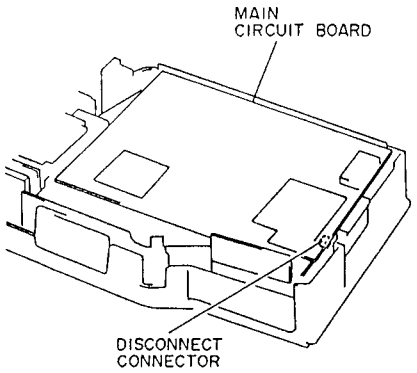


Fig. 2-2

1-2. Electronic Viewfinder (EVF)

ORDER FOR REMOVING PARTS	ITEM No.
° Left Case	1-1

1. Move the EVF in the direction of arrow (A). (See Fig. 2-3)
2. While pulling the EVF shoe spring (1) in the direction of arrow (B), remove the EVF in the direction of arrow (A).
3. Remove one (1) screw and move the camera chassis in the direction of arrow (C) to release the EVF cable. (See Fig. 2-4)
4. Release two (2) tabs and open the main circuit board in the direction of arrow (D).
5. Disconnect connector CN401 on the main circuit board.

Note: When reinstalling the EVF, first attach the EVF shoe spring (1) to the EVF shoe.

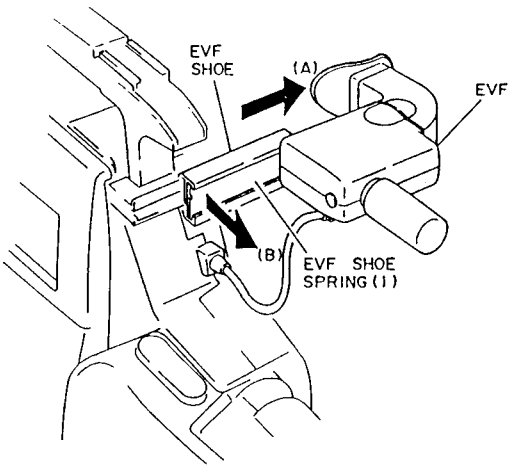


Fig. 2-3

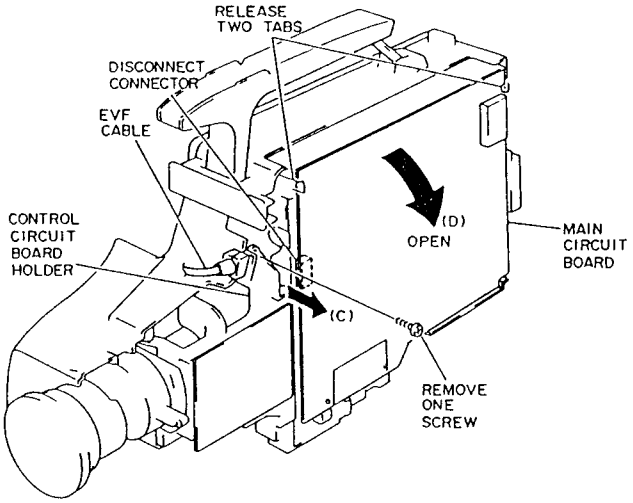


Fig. 2-4

1-3. Electronic Viewfinder (EVF) Shoe and Accessory Shoe

ORDER FOR REMOVING PARTS	ITEM No.
° Left Case	1-1
° EVF	1-2

1. Move the EVF shoe in the direction of arrow (A). (See Fig. 2-5)
2. While pulling the EVF shoe spring (2) in the direction of arrow (B), remove the EVF shoe in the direction of arrow (A).
3. Remove one (1) screw holding the accessory shoe spring.
4. Lift up the accessory shoe spring and remove the accessory shoe spring in the direction of arrow (C).
5. Remove two (2) screws holding the accessory shoe.

Note: When reinstalling the EVF shoe, first attach the EVF shoe spring (2) to the EVF shoe.

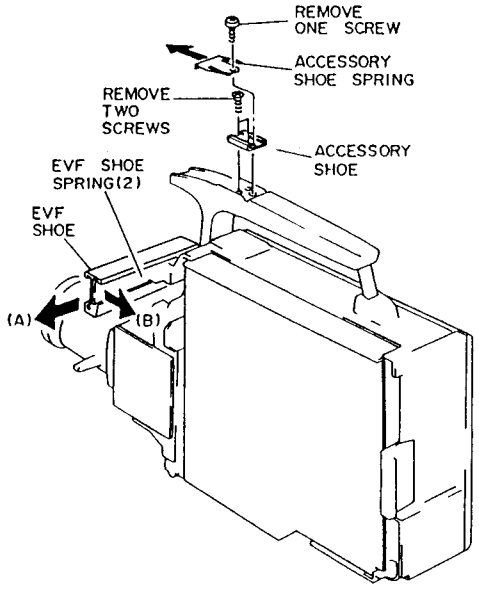


Fig. 2-5

1-4. Cassette Lid

1. Remove two (2) screws holding the cassette lid. (See Fig. 2-6)
2. Remove the cassette lid in the direction of the arrow.

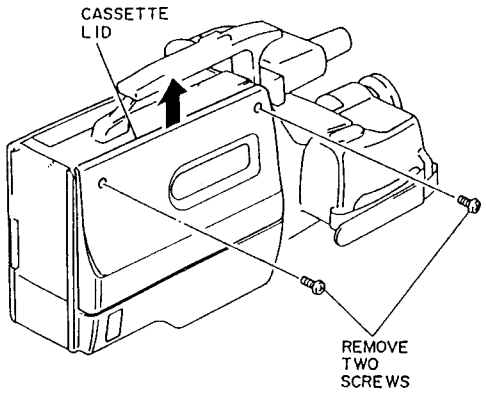


Fig. 2-6

1-5. Right Case

ORDER FOR REMOVING PARTS	ITEM No.
∘ Left Case	1-1
∘ EVF	1-2
∘ Cassette Lid	1-4

1. Open the main circuit board. (See Fig. 2-4)
2. Release one (1) tab and remove the batt. terminal circuit board in the direction of the arrow. (See Fig. 2-7)
3. Disconnect three (3) connectors (CN407, CN901, CN906) on the main circuit board.
4. Remove three (3) screws holding the right case. (See Fig. 2-8)
5. Pull the right case in the direction of arrow (A), and while releasing one (1) tab, remove the right case in the direction of arrow (B).

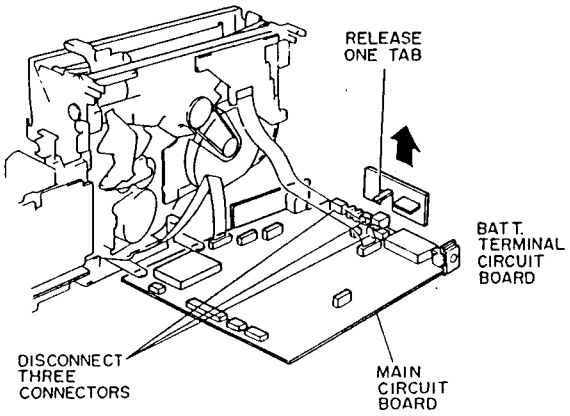


Fig. 2-7

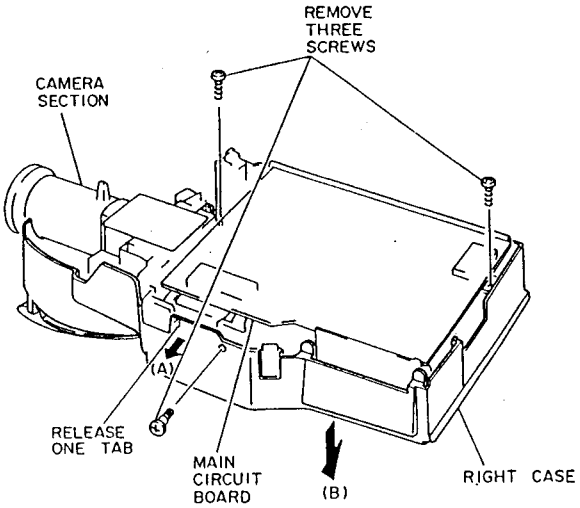


Fig. 2-8

1-6. Carrying Handle

ORDER FOR REMOVING PARTS	ITEM No.
∘ Left Case	1-1
∘ EVF	1-2
∘ Cassette Lid	1-4
∘ Right Case	1-5

2. Remove two (2) screws holding the carrying handle shoe. (See Fig. 2-9)
3. Remove one (1) screw holding the carrying handle.
4. While pulling the carrying handle shoe spring in the direction of arrow (B), remove the carrying handle in the direction of arrow (A).

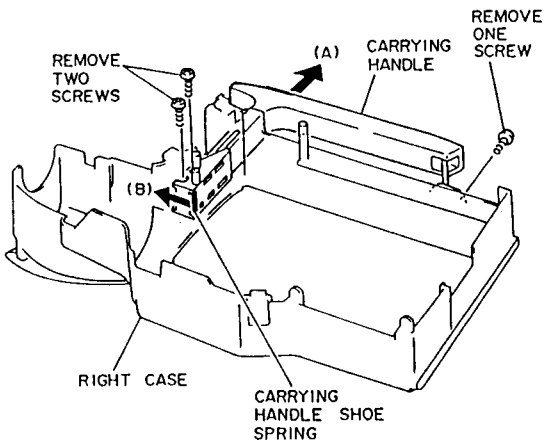


Fig. 2-9

2. CIRCUIT BOARD AND TAPE TRANSPORT MECHANISM REMOVAL

ORDER FOR REMOVING PARTS	ITEM No.
° Left Case	1-1
° EVF	1-2
° Cassette Lid	1-4
° Right Case	1-5

2-1. Main Circuit Board and Tape Transport Mechanism

1. Release two (2) tabs and open the main circuit board in the direction of the arrow. (See Fig. 2-10)
2. Disconnect two (2) connectors (CN905, CN910) holding the CAMERA section and VCR section. (See Fig. 2-11)
3. Disconnect five (5) connectors (CN402, CN403, CN602, CN904, CN912).
4. Disconnect three (3) flat cables (CN201, CN601, CN903).
5. Release two (2) tabs holding the main circuit board. (See Fig. 2-10)
6. Remove one (1) screw holding the ground cable. (See Fig. 2-12)

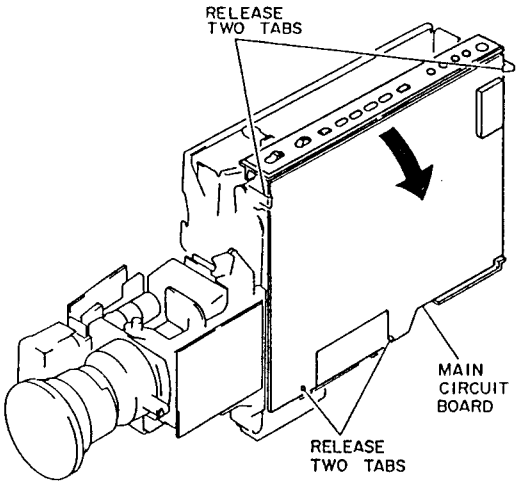


Fig. 2-10

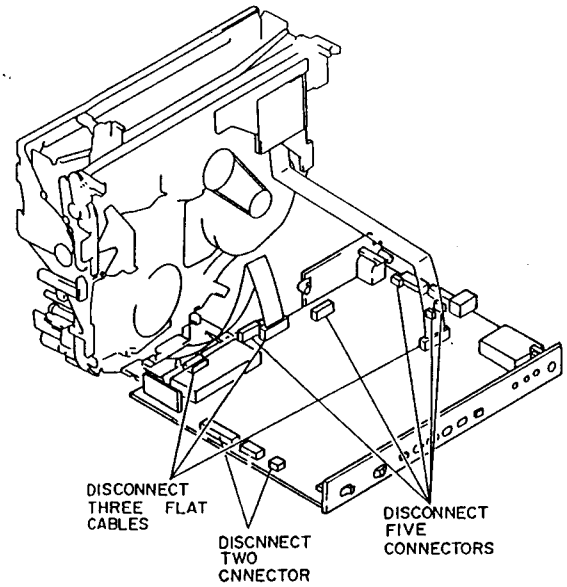


Fig. 2-11

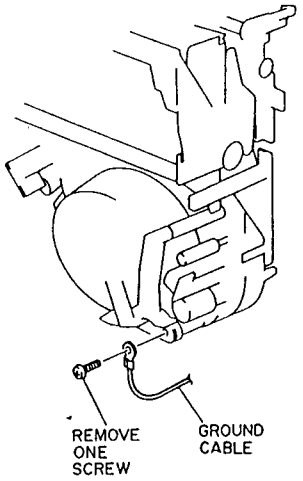


Fig. 2-12

2-2. Auto Focus Circuit Board

1. Release three (3) tabs holding the auto focus circuit board. (See Fig. 2-13)
2. Disconnect seven (7) connectors (CN01AF, CN02AF, CN03AF, CN04AF CN05AF, CN06AF, CN07AF) on the auto focus circuit board.

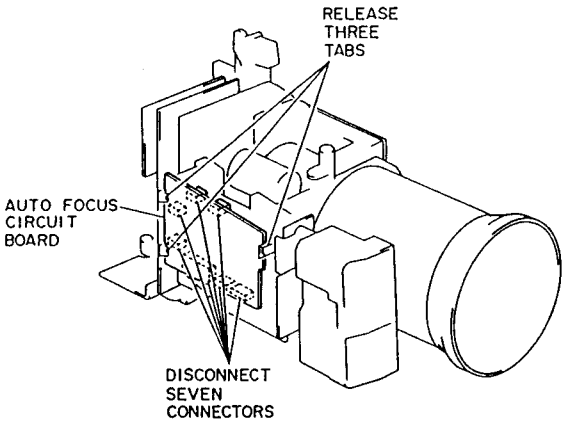


Fig. 2-13

2-3. Control Circuit Board

1. Disconnect two (2) connectors (CN601, CN910). (See Fig. 2-14)
2. Release three (3) tabs holding the control circuit board.

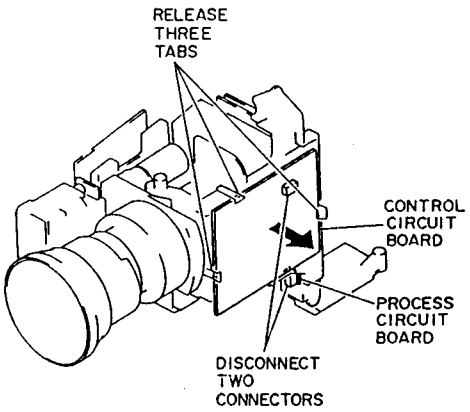


Fig. 2-14

2-4. Process Circuit Board

1. Pull the process circuit board in the direction of arrow and disconnect two (2) connectors (CN101, CN102) between the sensor circuit board. (See Fig. 2-15)
2. Disconnect four (4) connectors (CN203, CN204, CN205, CN206) on the process circuit board.

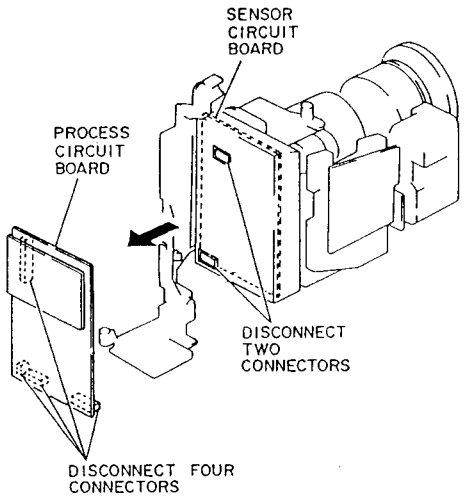


Fig. 2-15

2-5. DC-DC Converter

1. Disconnect connector CN205 from the process circuit board. (See Fig. 2-16)
2. Release one (1) tab and pull out the DC-DC converter circuit board form its holder in the direction of arrow.

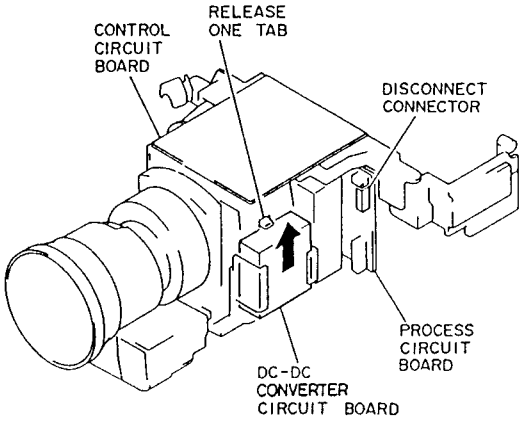


Fig. 2-16

2-6. Sensor Circuit Board

ORDER FOR REMOVING PARTS	ITEM No.
° Process Circuit Board	2-4

1. Remove one (1) screw holding the sensor shield cover. (See Fig. 2-17)
2. Remove three (3) screws holding the sensor circuit board.
3. Pull out the sensor circuit board in the direction of arrow.

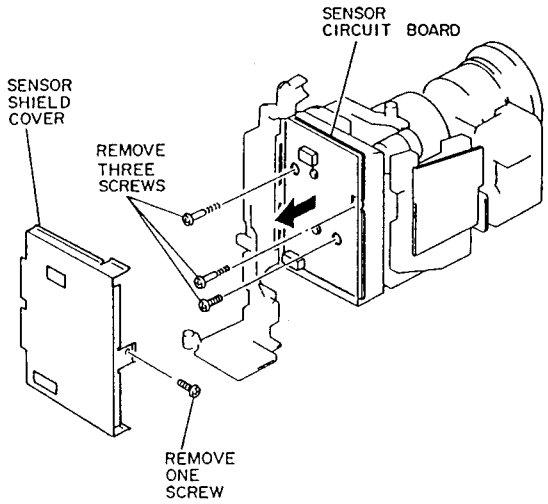


Fig. 2-17

2-7. DC Light Cont. Circuit Board and Batt. Terminal Circuit Board

1. Unsolder connector CN902 on the batt. terminal circuit board. (See Fig. 2-18)
2. Remove one (1) screw holding the fuse cover. (See Fig. 2-19)
3. Open the covers back-up battery and fuse remove them in the direction of arrow.
4. Remove the DC light cont. circuit board in the direction of arrow.
5. Disconnect connector CN906 on the back-up circuit board.

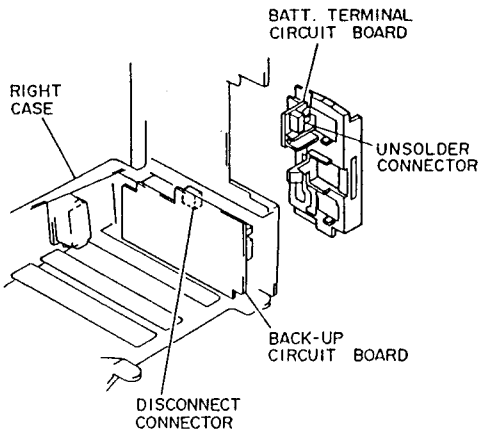


Fig. 2-18

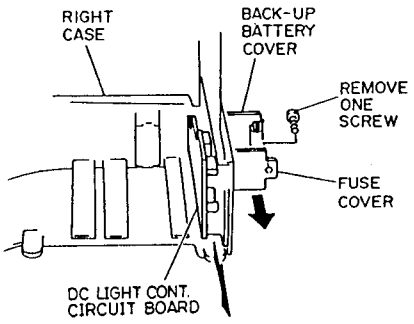


Fig. 2-19

2-8. Light Terminal Circuit Board

ORDER FOR REMOVING PARTS	ITEM No.
° Acsseory Shoe	1-3
° Carrying Handle	1-6

1. Remove one (1) screw holding light terminal circuit board. (See Fig. 2-20)
2. Remove front cover in the direction of arrow (A).
3. Remove slide cover in the direction of arrow (B).

Note: When the light terminal slide cover is removed, the spring of the light terminal slide cover will come off.

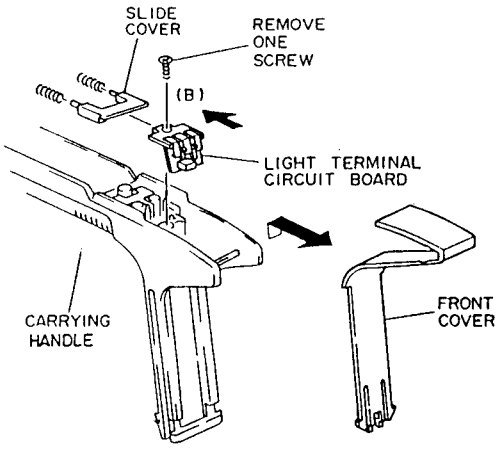


Fig. 2-20

MAIN MECHANICAL COMPONENTS IDENTIFICATIONS (TOP VIEW)

1. Cylinder Brush
2. Upper Cylinder (Video Head)
3. Guide Roller Rail
4. X-Value Adjust Nut
5. Take-up Guide Roller
6. Audio/Control (A/C) Head
7. Take-up Guide Pole
8. Half Loading Arm
9. Pressure Roller Assembly
10. Take-up Guide Arm
11. Take-up End Sensor
12. End LED
13. Take-up Reel Disk
14. Cassette Holder Lock Slider
15. Reel Gear Block
16. Supply Reel Disk
17. Tension Band
18. Tension Arm
19. Supply Guide Roller
20. Supply End Sensor
21. Supply Guide Post
22. Supply Guide Pole
23. Full Erase (FE) Head
24. Impedance Roller

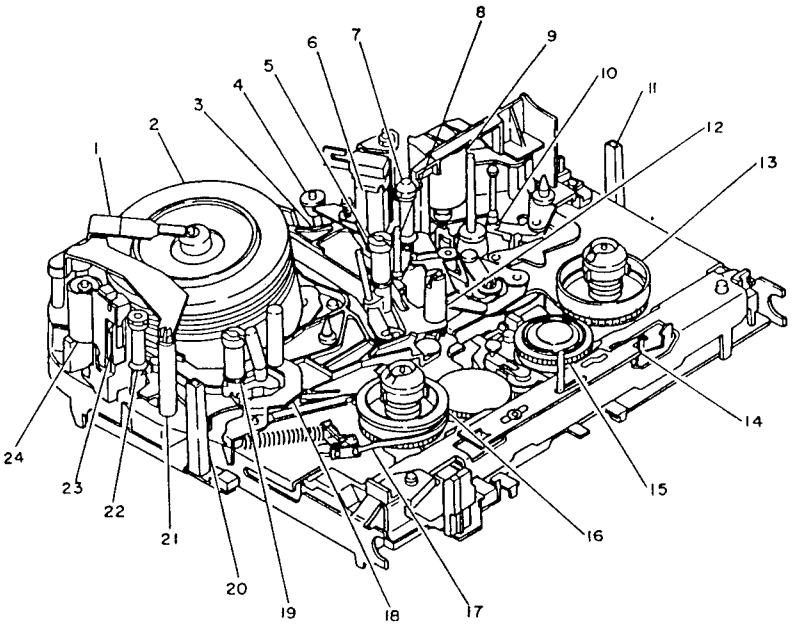


Fig. 2-21

MAIN MECHANICAL COMPONENTS IDENTIFICATIONS (BOTTOM VIEW)

1. Lower Cylinder (Cylinder Motor Assembly)
2. Supply Loading Cam Gear
3. Cam Gear Plate
4. Mechanism State Switch
5. Tension Pole Drive Arm
6. Loading Motor
7. Supply Sensor Circuit Board
8. Loading Gear
9. Driving Gear
10. Take-up Sensor Circuit Board
11. Capstan Motor
12. Take-up Loading Cam Gear

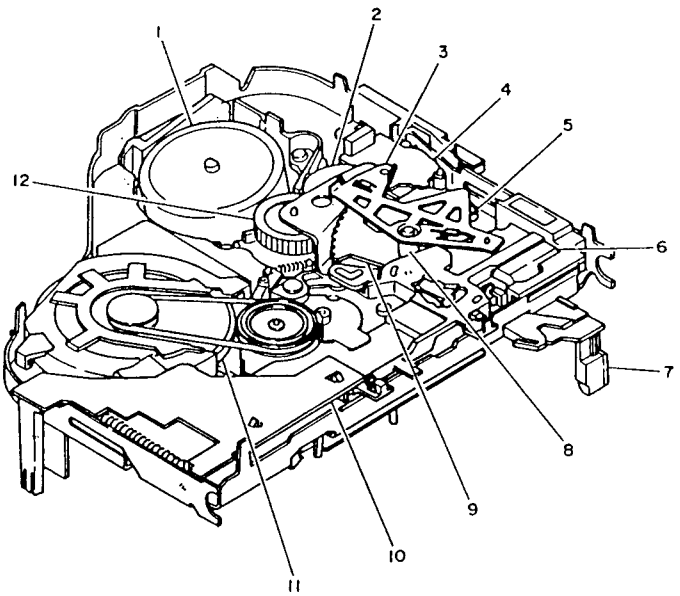


Fig. 2-22

3. MAIN MECHANICAL COMPONENTS REMOVAL

Reinstall the components by the reverse procedure to removal when no caution items are given.

ORDER FOR REMOVING PARTS	ITEM No.
◦ Tape Transport Mechanism	2-10

3-1. Cassette Holder and Supply Sensor Circuit Board

1. Disconnect connector CN001. (See Fig. 2-51)
2. Remove one (1) screw holding the supply sensor circuit board.
3. Release one (1) tab and lift up the cassette holder. (See Fig. 2-52)
4. Remove the supply sensor circuit board in the direction of the arrow. (See Fig. 2-51)
5. Remove two (2) screws holding the cassette holder and cassette holder spring. (See Fig. 2-53)
6. Remove one (1) screw holding the cassette holder and chassis holder. (See Fig. 2-54)
7. Move the front arm of the cassette holder in the direction of arrow (A). (See Figs. 2-53, 2-54)
8. Move the rear arm of the cassette holder in the direction of arrow (B). (See Figs. 2-53, 2-54)

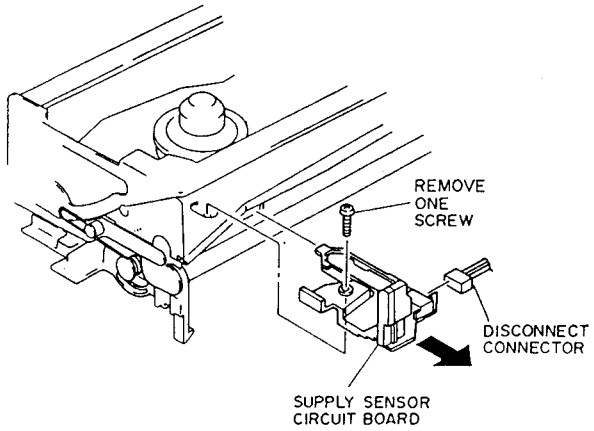


Fig. 2-51

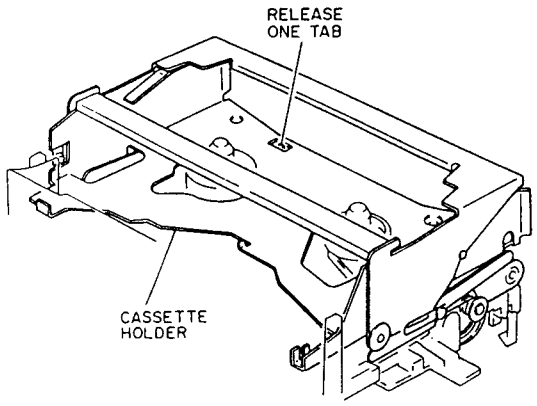


Fig. 2-52

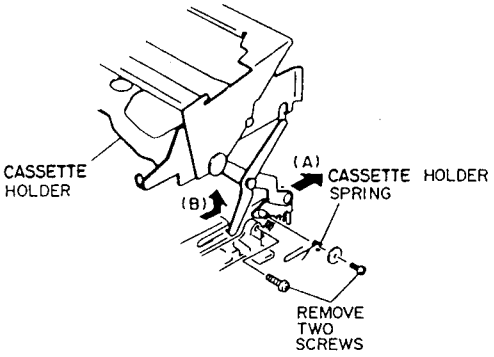


Fig. 2-53

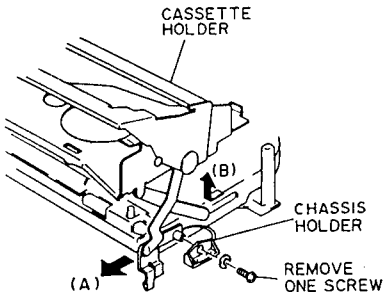


Fig. 2-54

3-2. Upper Cylinder (Video Head)

1. Remove one (1) screw holding the cylinder discharge brush and cylinder shield. (See Fig. 2-55)
2. Remove two (2) screws holding the upper cylinder and pull out the upper cylinder from the lower cylinder.

Note: Be careful that your fingers or tools do not touch the video head tips during work.

Upon reinstallation, align the video heads connected to the connector (blue) of the upper cylinder with the arrow mark on the lower cylinder. (See Fig. 2-56) Install the upper cylinder by the reverse procedure to removal. Tighten two (2) upper cylinder holding screws alternately. Adjust as follows after installing the cylinder assembly.

★ CHAPTER 3
2-6. ADJUSTMENT AFTER REPLACING THE CYLINDER.

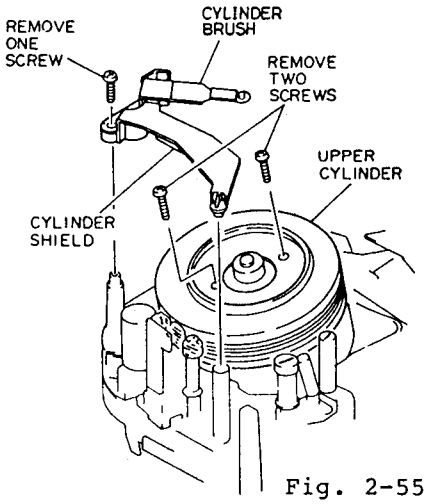


Fig. 2-55

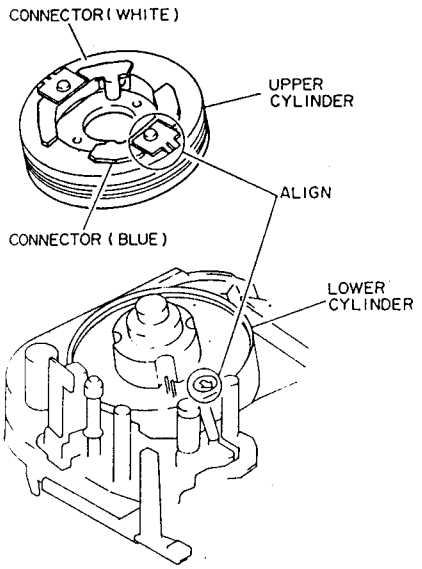


Fig. 2-56

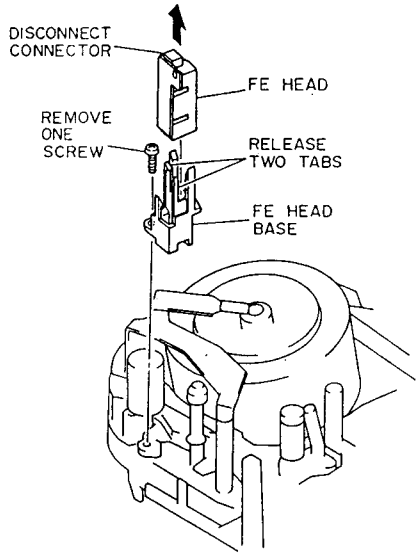


Fig. 2-58

3-3. Audio/Control (A/C) Head

1. Disconnect connector CN402. (See Fig. 2-57)
2. Remove two (2) screws holding the A/C head.

Note: Adjust as follows after installing the Audio/Control Head.
* CHAPTER 3
  2-5. A/C HEAD ADJUSTMENT
* CAHPTER 4
  3-8. AUDIO SECTION
  1) Audio Bias Level Adjustment.

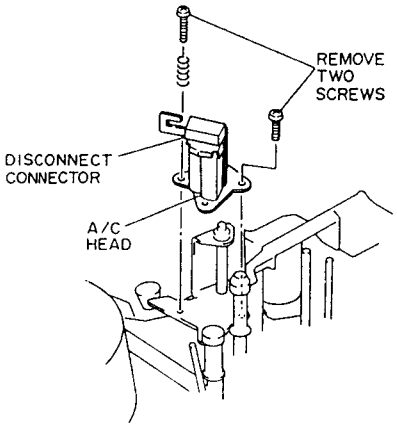


Fig. 2-57

3-4. Full Erase (FE) Head

1. Disconnect connector CN403. (See Fig. 2-58)
2. Remove one (1) screw holding the FE head base.
3. Release two (2) tabs holding the FE head and remove the FE head in the direction of the arrow.

3-5. Dew Sensor

1. Disconnect connector CN002 on the take-up sensor circut board.
2. Release one (1) tab holding the dew sensor. (See Fig. 2-59)
3. Remove the dew sensor in the direction of the arrow from the pressure roller holder.

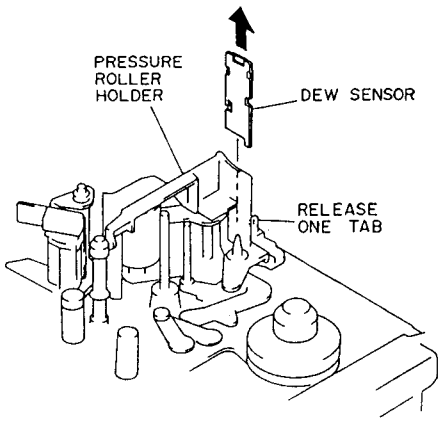


Fig. 2-59

3-6. Supply End Sensor and Mechanism State Switch

1. Disconnect connector CN001 on the supply end sensor. (See Fig. 2-60)
2. Disconnect connector CN001 on the mechanism state switch.
3. Release two (2) tabs of the supply end sensor.
4. Remove the supply end sensor.
5 Remove one (1) screw holding the mechanism state switch.
6. Remove the mechanism state switch.

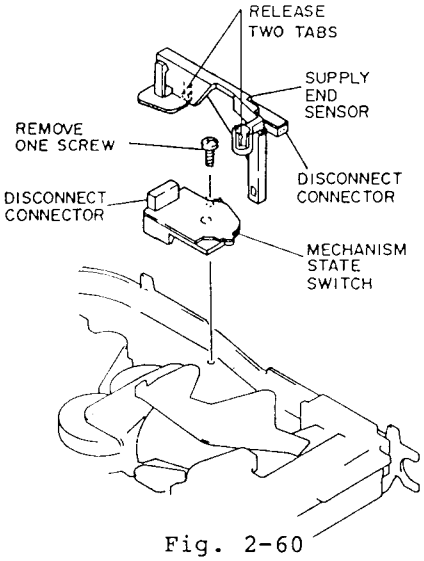


Fig. 2-60

3-7. Take-up Sensor Circuit Board (Take-up Reel Sensor/Take-up End Sensor/Cassette Holder Switch)

1. Remove two (2) screw holding the take-up sensor circuit board. (See Fig. 2-61)
2. Release three (3) tabs and open the take-up sensor circuit board.
3. Disconnect two (2) connectors (CN001) from the supply sensor circuit board and supply end sensor circuit board. (See Fig. 2-62)
4. Disconnect connector CN001 from the mechanism state switch and release the wires from the wire retainers. (See Fig. 2-63)
5. Disconnect connector CN002 on the take-up sensor circuit board.

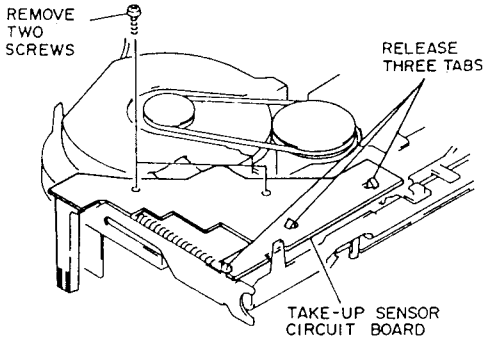


Fig. 2-61

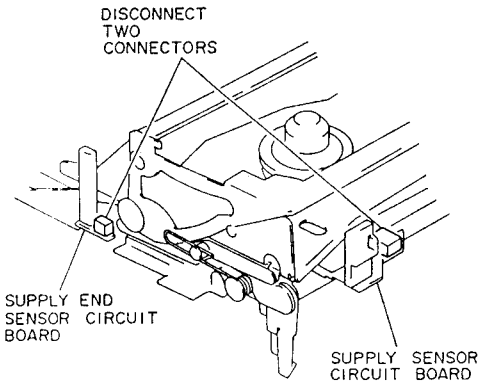


Fig. 2-62

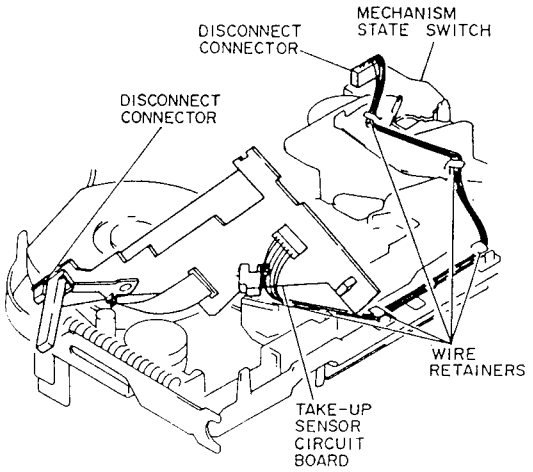


Fig. 2-63

3-8. Lower Cylinder (Cylinder Motor Assembly)

ORDER FOR REMOVING PARTS	ITEM No.
◦ Upper Cylinder	3-2

1. Remove three (3) screws holding the lower cylinder. (See Fig. 2-64)

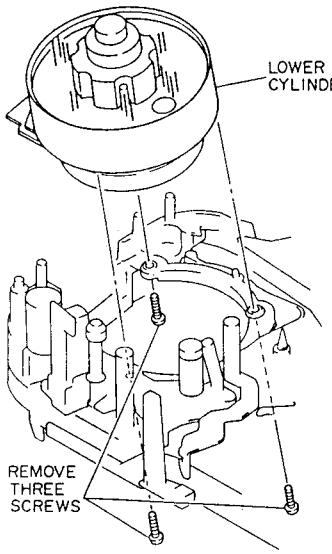


Fig. 2-64

3-9. Capstan Motor

1. Move the take-up guide arm in the direction of the arrow (pressure roller side). (See Fig. 2-65)
2. Remove three (3) screws holding the capstan motor.
3. Disconnect connector CN1M on the capstan motor. (See Fig. 2-66)
4. Remove the capstan belt from the capstan motor.
5. Release three (3) tabs holding the capstan motor cover and capstan motor.
6. Release three (3) tabs and remove the capstan motor cover.

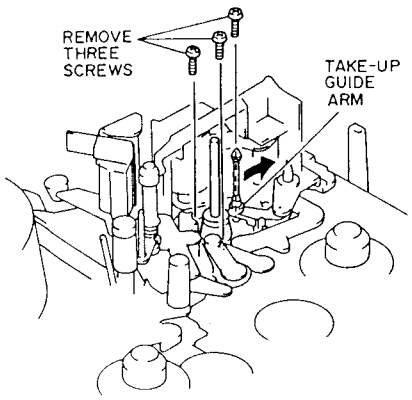


Fig. 2-65

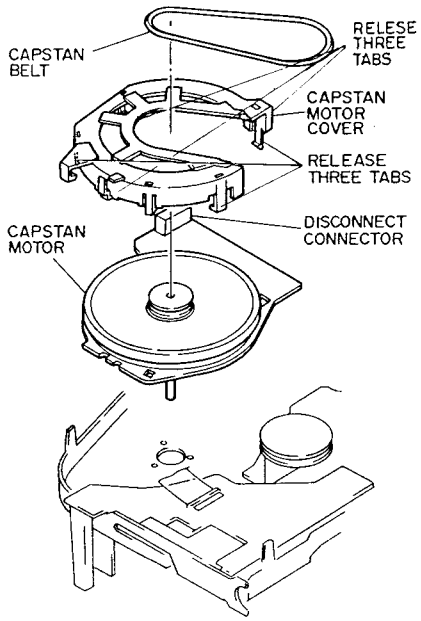


Fig. 2-66

3-10. Impedance Roller

1. Remove one (1) washer and pull out the impedance roller. (See Fig. 2-67)

Note: Be careful that your fingers do not touch the roller during work.

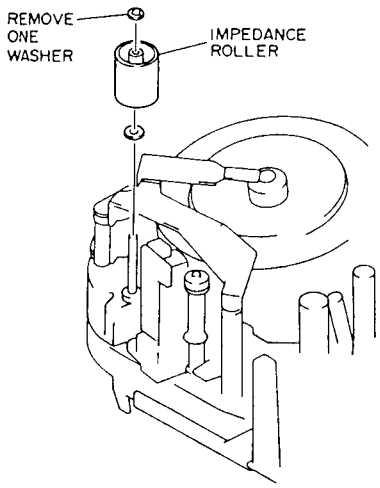


Fig. 2-67

3-11. Pressure Roller Assembly

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1
∘ Dew Sensor	3-5

1. Remove two (2) screws holding the pressure roller holder. (See Fig. 2-68)
2. Pull out the pressure roller assembly from the chassis.

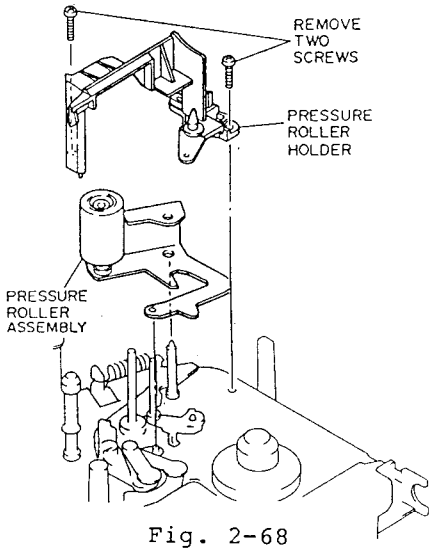


Fig. 2-68

3-12. Tension Arm and Tension Band

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1

1. Remove one (1) tab of the supply end sensor. (See Fig. 2-69)
2. Release the tension spring.
3. Remove one (1) screw holding the tension band.
4. Move the supply sub brake in the direction of the arrow.
5. Remove the tension arm and tension band from the chasis.
6. Release one (1) tab and remove the tension band from the tension arm.

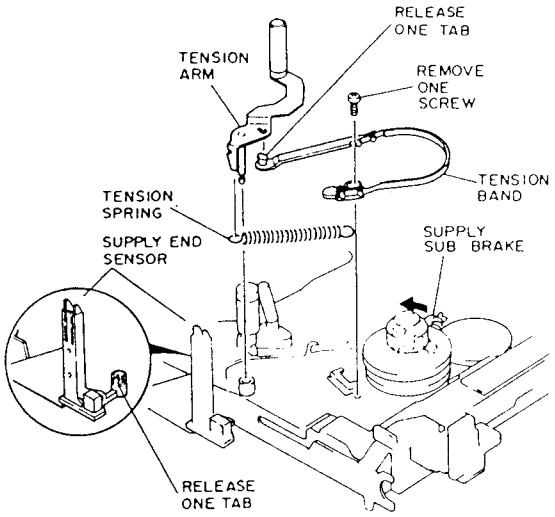


Fig. 2-69

3-13. Supply Reel Disk

ORDER FOR REMOVING PARTS	ITEM No.
° Cassette Holder and Supply Sensor Circuit Board	3-1
° Tension Arm and Tension Band	3-12

1. Remove one (1) washer holding the supply reel disk. (See Fig. 2-70)
2. Move the supply sub brake in the direction of the arrow.
3. Pull out the supply reel disk from the chassis.

Note: Take case not to lose the washer in the lower section.
Adjust as follows after installing the supply reel disk.
* CHAPTER 3
2-1. REEL DISK HEIGHT ADJUSTMENT

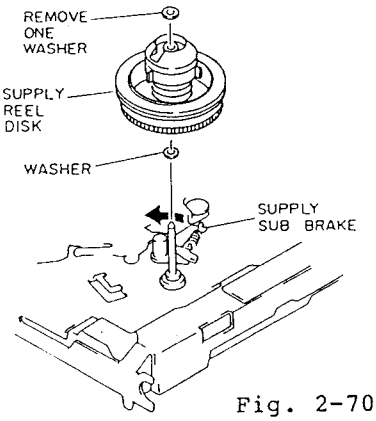


Fig. 2-70

3-14. Take-up Reel Disk

ORDER FOR REMOVING PARTS	ITEM No.
° Cassette Holder and Supply Sensor Circuit Board	3-1

1. Remove one (1) washer holding the take-up reel disk. (See Fig. 2-71)
2. Pull out the take-up reel disk from the chassis.

Note: Take case not to lose the washer in the lower section.
Adjust as follows after installing the take-up reel disk.
* CHAPTER 3
2-1. REEL DISK HEIGHT ADJUSTMENT

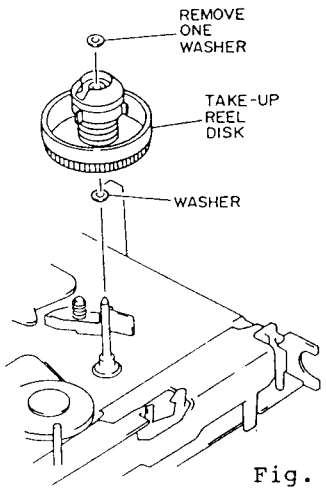


Fig. 2-71

3-15. Take-up Sub Brake

ORDER FOR REMOVING PARTS	ITEM No.
° Cassette Holder and Supply Sensor Circuit Board	3-1

1. Remove the spring between the chassis and take-up sub brake. (See Fig. 2-72)
2. Relase one (1) tab and pull out the take-up sub brake from the chassis.

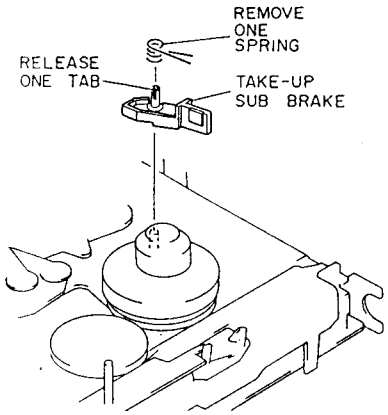


Fig. 2-72

3-16. Supply Guide Pole

1. Turn the upper section of the supply guide pole using the hexagonal box wrench (5.0mm) to remove the supply guide pole. (See Fig. 2-73)

Note: Adjust as follows after installing the supply guide pole.
* CHAPTER 3
2-3. SUPPLY AND TAKE-UP GUIDE POLE HEIGHT ADJUSTMENT

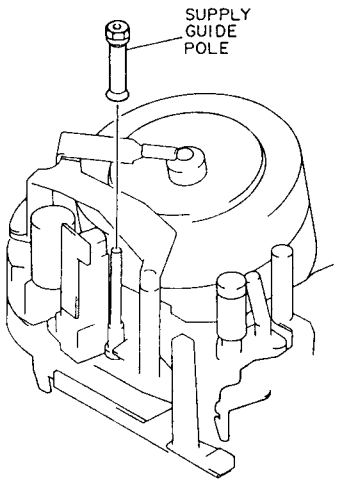


Fig. 2-73

3-17. Supply Guide Roller

1. Remove one (1) hex screw holding the supply guide roller. (See Fig. 2-74)
2. Turn the upper section of the supply guide roller using a flat-head driver to remove the supply guide roller from the supply guide roller base.

Note: Adjust as follows after installing the supply guide roller.
* CHAPTER 3
2-4. SUPPLY/TAKE-UP GUIDE ROLLER HEIGHT ADJUSTMENT

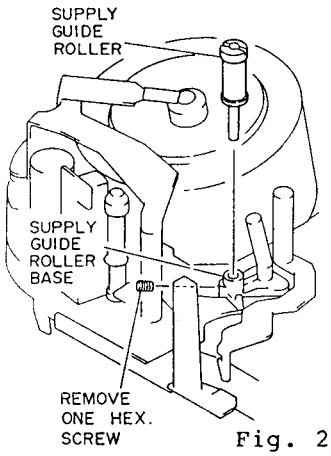


Fig. 2-74

3-18. Take-up Guide Roller

1. Remove one (1) hex screw holding the take-up guide roller. (See Fig. 2-75)
2. Turn the upper section of the take-up guide roller using a flat-head driver to remove the take-up guide roller from the take-up guide roller base.

Note: Adjust as follows after installing the take-up guide roller.
* CHAPTER 3
2-4. SUPPLY/TAKE-UP GUIDE ROLLER HEIGHT ADJUSTMENT

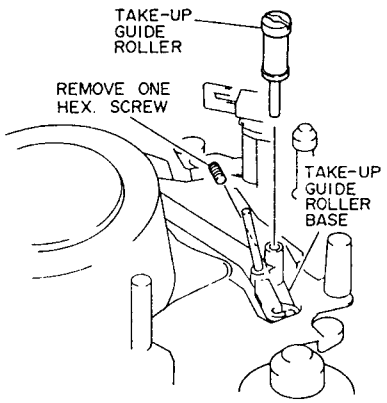


Fig. 2-75

3-19. A/C Head Base

ORDER FOR REMOVING PARTS	ITEM No.
∘ A/C Head	3-3

1. Remove one (1) nut holding the A/C head base. (See Fig. 2-76)
2. Pull out the A/C head base together with the spring.

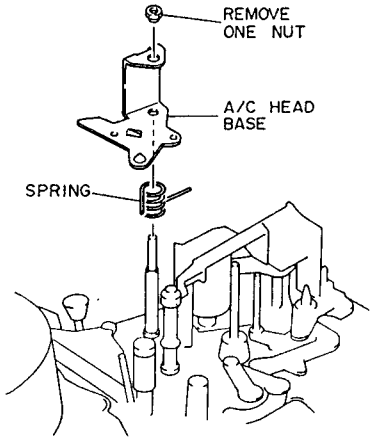


Fig. 2-76

3-20. Take-up Guide Pole, Half Loading Arm and Half Loading Control Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ A/C Head Base	3-19

1. Turn the upper section of the take-up guide pole using the hexagonal box wrench (5.0mm) to remove the take-up guide pole. (See Fig. 2-77)
2. Remove one (1) washer holding the half loading control arm.
3. Pull out the half loading arm and half loading control arm from the chassis.

Note: Adjust as follows after installing the take-up guide pole.
* CHAPTER 3
2-3. SUPPLY AND TAKE-UP GUIDE POLE HEIGHT ADJUSTMENT

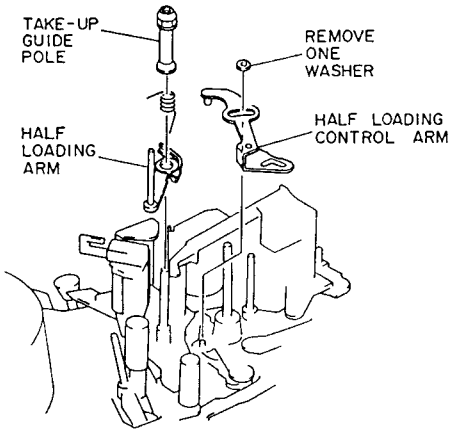


Fig. 2-77

3-21. Supply Guide Roller Base, Take-up Guide Roller Base, Guide Roller Rail and End Lamp Removal

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1
∘ A/C Head	3-3
∘ FE Head	3-4
∘ Impedance Roller	3-10
∘ Tension Arm and Tension Band	3-12
∘ Supply Guide Roller	3-17
∘ Take-up Guide Roller	3-18
∘ A/C Head Base	3-19
∘ Take-up Guide pole, Half Loading Arm and Half Loading Control Arm	3-20

1. Remove one (1) screw holding the cylinder brush and cylinder shield. (See Fig. 2-78)
2. Remove three (3) screws holding the cylinder assembly. (See Fig. 2-79)
3. Remove three (3) screws holding the guide roller rail. (See Fig. 2-78)
4. Release eight (8) tabs and remove the guide roller rail together with the supply guide roller base, take-up guide roller base and end lamp.
5. Remove the end lamp in the direction of the arrow from the guide roller rail.

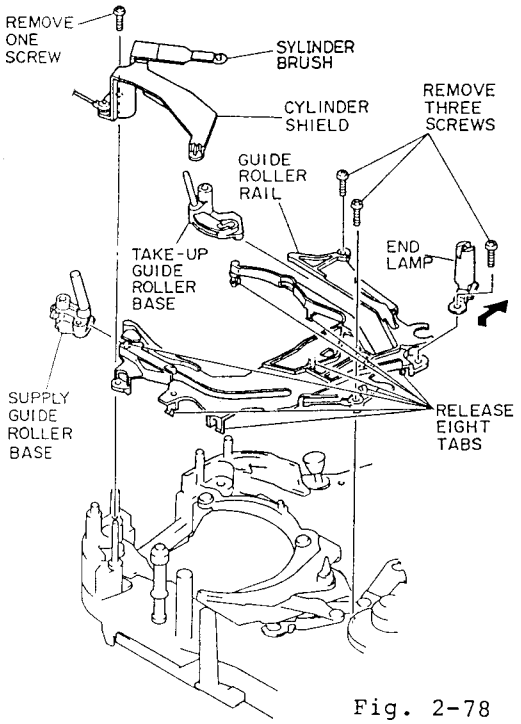


Fig. 2-78

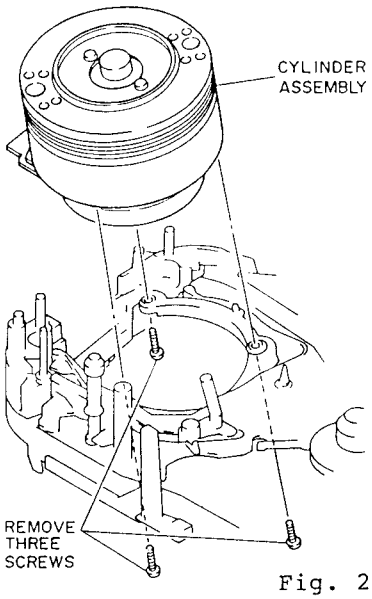


Fig. 2-79

3-22. Supply Sub Brake

ORDER FOR REMOVING PARTS .	ITEM No.
° Cassette Holder and Supply Sensor Circuit Board	3-1
° A/C Head	3-3
° FE Head	3-4
° Impedance Roller	3-10
° Tension Arm and Tension Band	3-12
° Supply Guide Roller	3-17
° Take-up Guide Roller	3-18
° A/C Head Base	3-19
° Take-up Guide pole, Half Loading Arm and Half Loading Control Arm	3-20
° Supply Guide Roller Base, Take-up Guide Rroller Base, Guide Roller Rail and End Lamp.	3-21

1. Release the spring between the supply sub brake and chassis. (See Fig. 2-90)
2. Pull out the supply sub brake from the chassis.

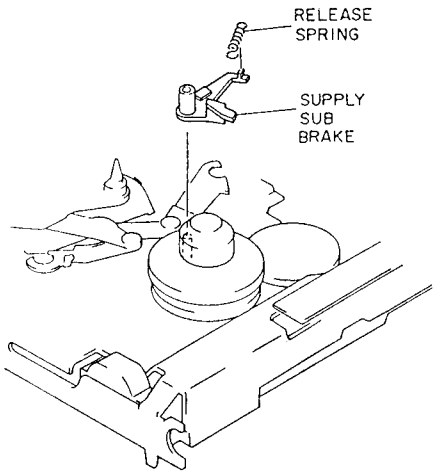


Fig. 2-80

3-23. Cylinder Base

ORDER FOR REMOVING PARTS .	ITEM No.
° Cassette Holder and Supply Sensor Circuit Board	3-1
° A/C Head	3-3
° FE Head	3-4
° Impedance Roller	3-10
° Tension Arm and Tension Band	3-12
° Supply Guide Roller	3-17
° Take-up Guide Roller	3-18
° A/C Head Base	3-19
° Take-up Guide pole, Half Loading Arm and Half Loading Control Arm	3-20
° Supply Guide Roller Base, Take-up Guide Rroller Base, Guide Roller Rail and End Lamp.	3-21

1. Remove three (3) screws holding the cylinder base. (See Fig. 2-81)

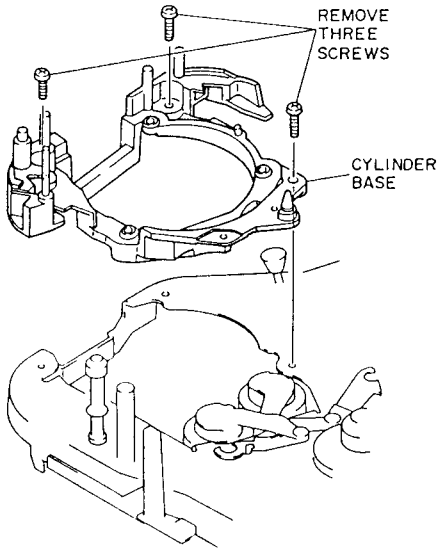


Fig. 2-81

3-24. Supply Loading Cam Gear and Take-up Loading Cam Gear

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1
∘ A/C Head	3-3
∘ FE Head	3-4
∘ Impedance Roller	3-10
∘ Tension Arm and Tension Band	3-12
∘ Supply Guide Roller	3-17
∘ Take-up Guide Roller	3-18
∘ A/C Head Base	3-19
∘ Take-up Guide pole, Half Loading Arm and Half Loading Control Arm	3-20
∘ Supply Guide Roller Base, Take-up Guide Rroller Base, Guide Roller Rail and End Lamp.	3-21
∘ Cylinder Base	3-23

1. Remove the supply loading cam gear and take-up loading cam gear. (See Fig. 2-82)

Note: Adjust as follows after installing the supply and take-up loading cam gears.
* CHAPTER #
1-1. LOADING CAM GEARS (SUPPLY/ TAKE-UP) ADJUSTMENT

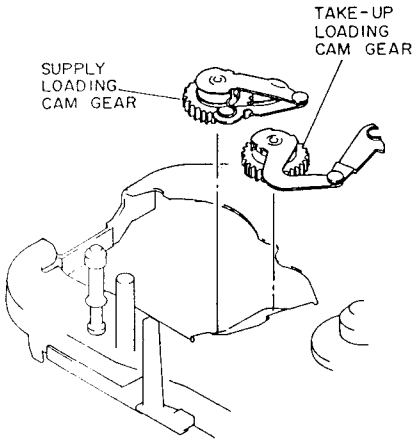


Fig. 2-82

3-25. Take-up Guide Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1
∘ Dew Sensor	3-5
∘ Pressure Roller Assembly	3-11

1. Release the spring between the take-up guide arm and chassis. (See Fig. 2-83)
2. Pull out the take-up guide arm from the chassis.

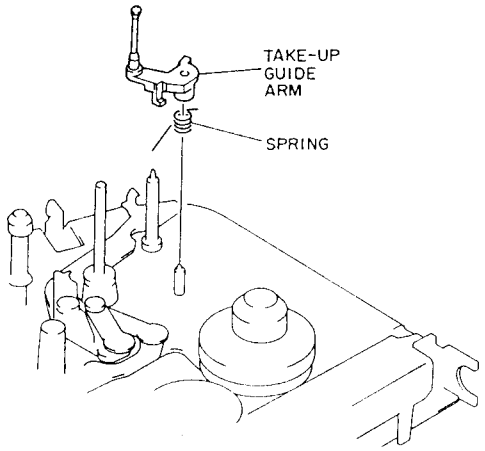


Fig. 2-83

3-26. Pressure Roller Control Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1
∘ Dew Sensor	3-5
∘ Pressure Roller Assembly	3-11
∘ Take-up Guide pole, Half Loading Arm and Half Loading Control Arm	3-20

1. Release the spring between the pressure roller control arm and chassis. (See Fig. 2-84)
2. Pull out the pressure roller control arm from the chassis.

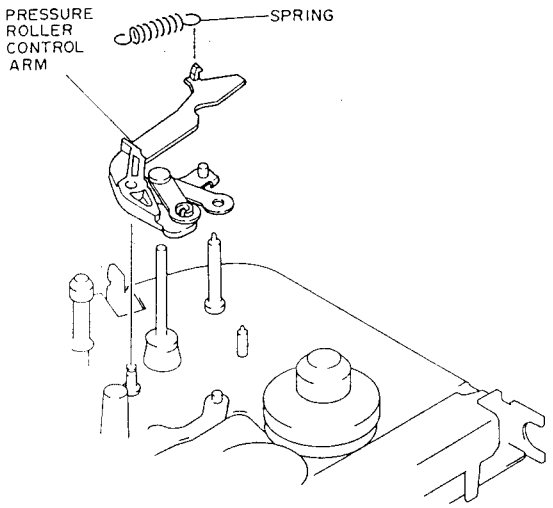


Fig. 2-84

3-27. Cassette Holder Lock Slider

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cassette Holder and Supply Sensor Circuit Board	3-1

1. Remove one (1) washer and release one (1) tab holding the cassette holder lock slider. (See Fig. 2-85)

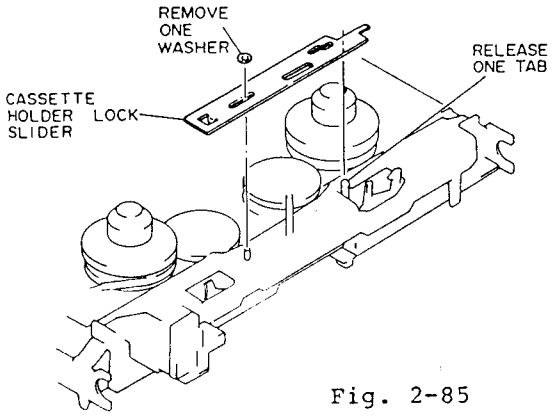


Fig. 2-85

3-28. Reel Gear Block and Loading Motor

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7

1. Remove the capstan belt from the reel gear block. (See Fig. 2-86)
2. Remove one (1) screw holding the cam gear plate.
3. Remove three (3) screws holding the reel gear block.
4. Release three (3) tabs holding the loading motor. (See Fig. 2-87)

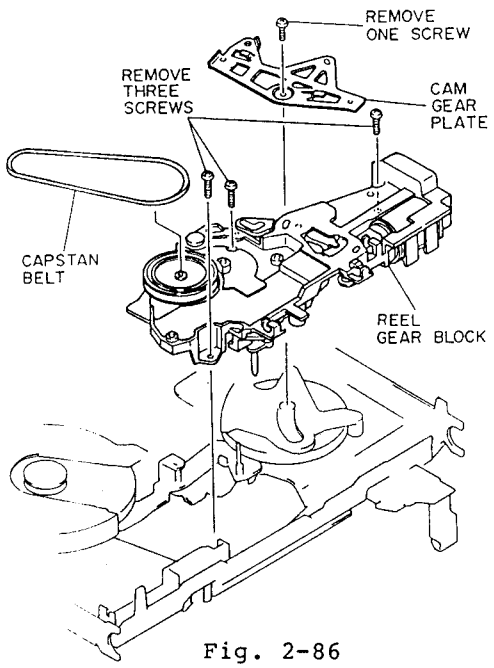


Fig. 2-86

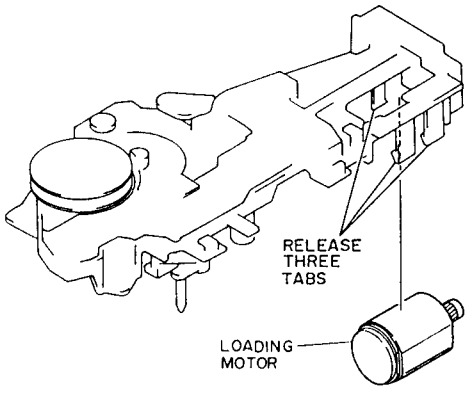


Fig. 2-87

3-29. Loading Gear

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28

1. Pull out the loading gear from the chassis. (See Fig. 2-88)

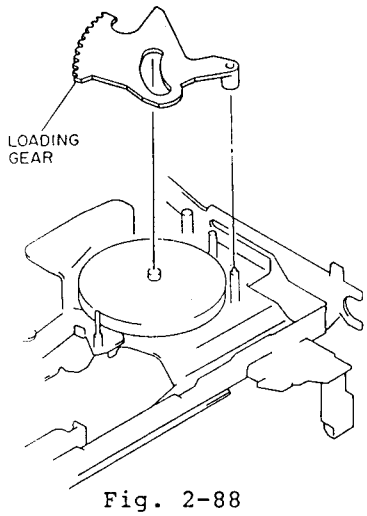


Fig. 2-88

3-30. Tension Pole Drive Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ Cam Gear Plate	3-28

1. Pull out the tension pole drive arm from the chassis. (See Fig. 2-89)

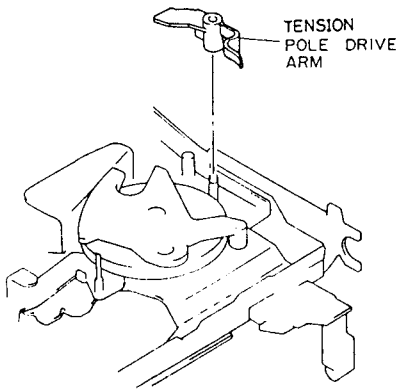


Fig. 2-89

3-31. Driving Gear

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28
∘ Loading Gear	3-29
∘ Tension Pole Drive Arm	3-30

1. Pull out the driving gear from the chassis. (See Fig. 2-90)

Note: Adjust as follows after installing the driving gear.
* CHAPTER 3
1-2. MECHANISM STATE SWITCH AND DRIVING GEAR ADJUSTMENT.

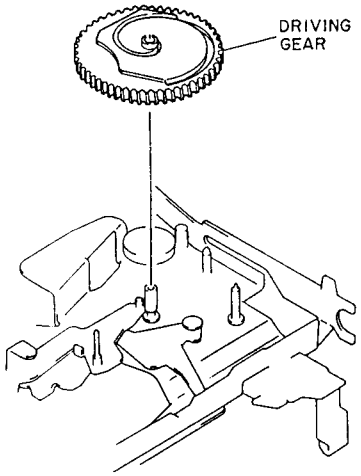


Fig. 2-90

3-32. Relay Gear

ORDER FOR REMOVING PARTS	ITEM No.
∘ Mechanism State Switch	3-6
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28
∘ Loading Gear	3-29
∘ Tension Pole Drive Arm	3-30
∘ Driving Gear	3-31

1. Pull out the relay gear from the chassis. (See Fig. 2-91)

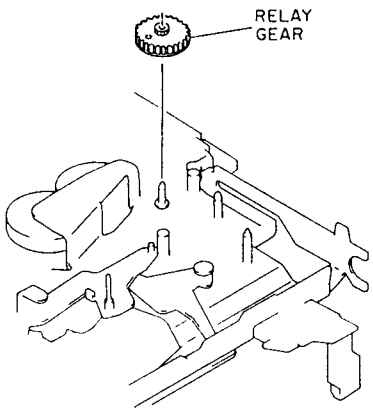


Fig. 2-91

3-33. Cassette Holder Lock

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28

1. Remove one (1) screw holding the cassette holder lock. (See Fig. 2-92)
2. Release one (1) tab and remove the cassette holder lock.

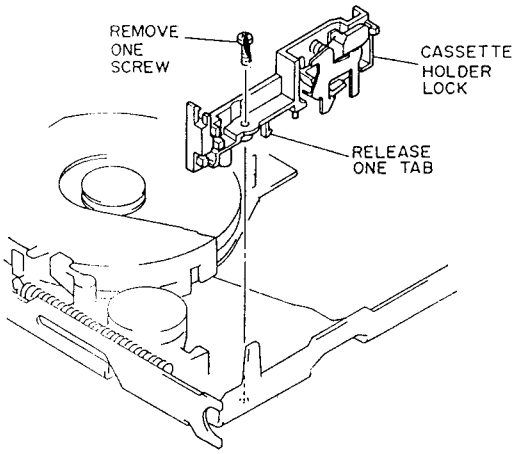


Fig. 2-92

3-34. Cassette Holder Damper

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28
∘ Cassette Holder Lock	3-33

1. Remove the cassette holder damper in the direction of the arrow. (See Fig. 2-93)

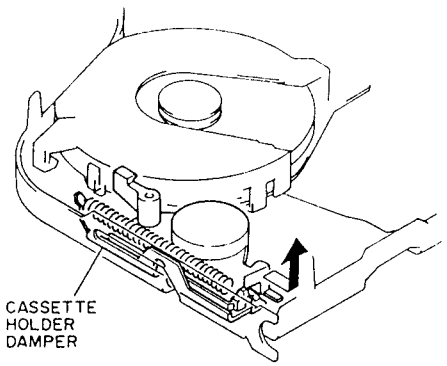


Fig. 2-93

3-35. Cam Gear Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Capstan Motor	3-9
∘ Reel Gear Block	3-28
∘ Loading Gear	3-29
∘ Tension Pole Drive Arm	3-30
∘ Driving Gear	3-31

1. Move the cam gear arm in the direction of the arrow. (See Fig. 2-94)
2. Pull out the cam gear arm from the chassis.

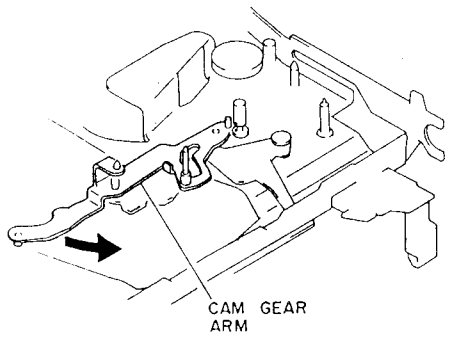


Fig. 2-94

3-36. Cassette Holder Lock Drive Arm

ORDER FOR REMOVING PARTS	ITEM No.
∘ Take-up Sensor Circuit Board	3-7
∘ Reel Gear Block	3-28
∘ Loading Gear	3-29
∘ Tension Pole Drive Arm	3-30
∘ Driving Gear	3-31
∘ Cam Gear Arm	3-35

1. Release the spring between the cassette holder lock drive arm and chassis. (See Fig. 2-95)
2. Pull out the cassette holder lock drive arm from the chassis.

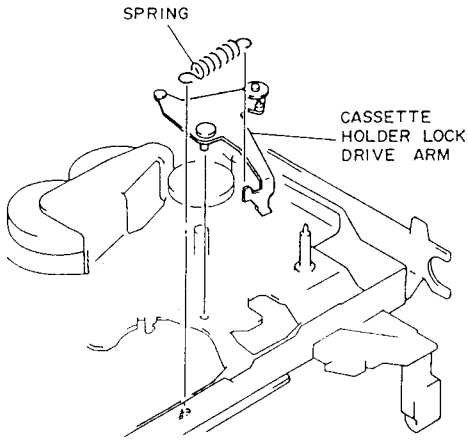


Fig. 2-95

4. LENS BLOCK REMOVAL

ORDER FOR REMOVING PARTS	ITEM No.
∘ Left Case	1-1
∘ EVF	1-2
∘ Cassette Lid	1-4
∘ Right Case	1-5

4-1. Lens Block

ORDER FOR REMOVING PARTS	ITEM No.
∘ Auto Focus Circuit Board	2-2
∘ Control Circuit Board	2-3
∘ Process Circuit Board	2-4
∘ DC-DC Converter	2-5
∘ Sensor Circuit Board	2-6

1. Remove one (1) screw holding the control circuit board holder. (See Fig. 2-101)
2. Release two (2) tabs and remove the control circuit board holder. (See Fig. 2-102)
3. Remove one (1) screw and the auto focus circuit board holder in the direction of arrow.

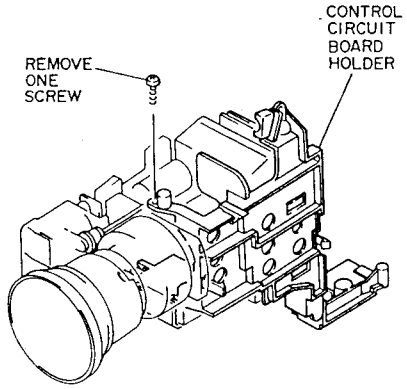


Fig. 2-101

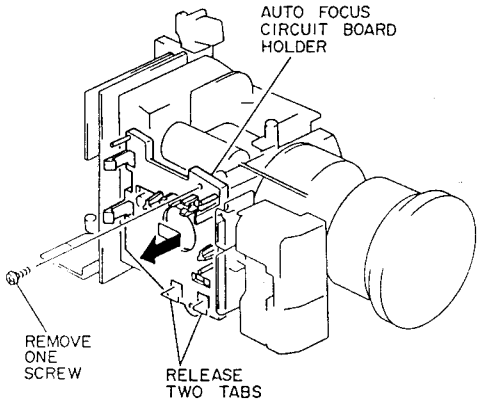


Fig. 2-102

4-2. Focus Motor

ORDER FOR REMOVING PARTS	ITEM No.
∘ Lens Block	4-1

1. Remove one (1) screw holding the focus motor. (See Fig. 2-103)
2. Remove the focus motor in the direction of the arrow.

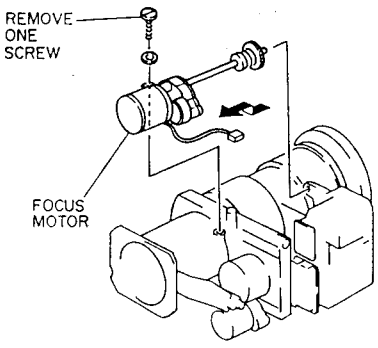


Fig. 2-103

4-3. Zoom Motor

ORDER FOR REMOVING PARTS	ITEM No.
∘ Lens Block	4-1

1. Remove one (1) screw holding the zoom motor. (See Fig. 2-104)
2. Remove the zoom motor in the direction of the arrow.

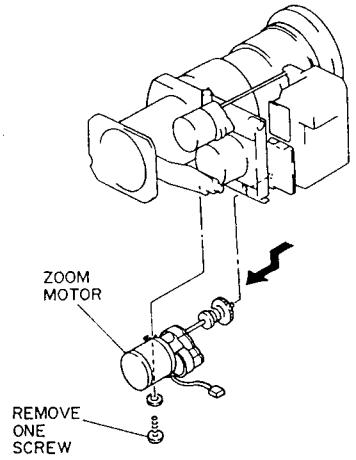


Fig. 2-104

4-4. Iris Block

ORDER FOR REMOVING PARTS	ITEM No.
∘ Lens Block	4-1

1. Remove the iris block in the direction of the arrow. (See Fig. 2-105)

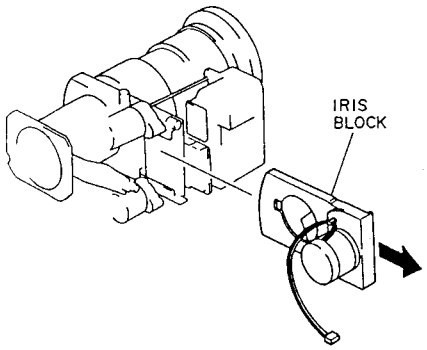


Fig. 2-105

5. ELECTRONIC VIEWFINDER (EVF) REMOVAL

ORDER FOR REMOVING PARTS	ITEM No.
∘ EVF	1-2

5-1. Bottom Case

1. Remove one (1) screw holding the EVF cable holder. (See Fig. 2-151)
2. Remove the EVF cable holder in the direction of arrow (A).
3. Remove one (1) screw holding the bottom case.
4. Remove the bottom case in the direction of arrow (B).

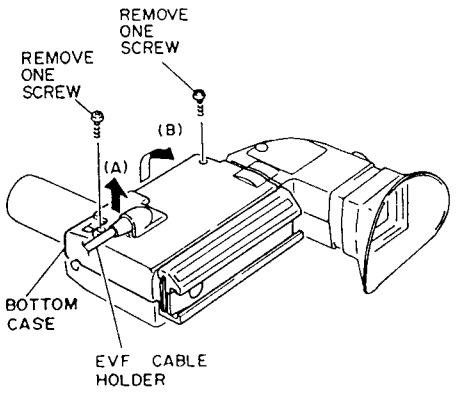


Fig. 2-151

5-2. Electronic Viewfinder (EVF) Circuit Board

ORDER FOR REMOVING PARTS	ITEM No.
∘ Bottom Case	5-1

1. Remove one (1) screw holding the EVF shield. (See Fig. 2-152)
2. Remove the EVF circuit board, MIC circuit board, indi. circuit board and CRT in the direction of the arrow from the top case.
3. Disconnect two (2) connector (CN1D, CN401) and unsolder one (1) connector (CN803) on the EVF circuit board. (See Fig. 2-153)
4. Disconnect CRT socket.

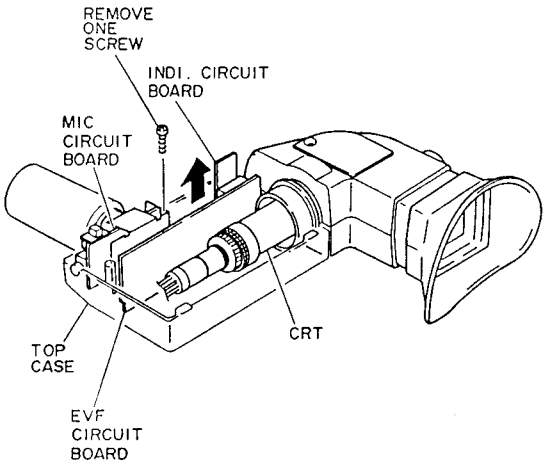


Fig. 2-152

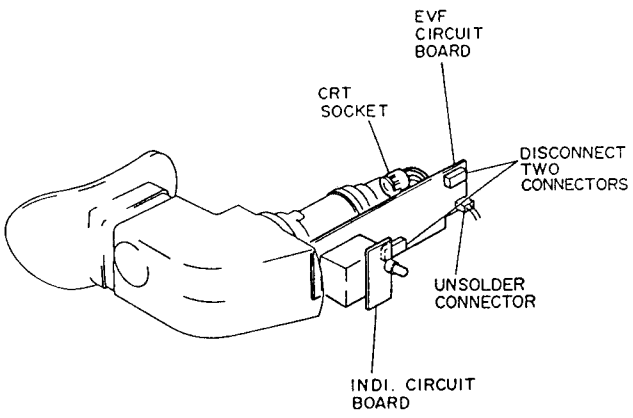


Fig. 2-153

5-3. MIC Circuit Board

ORDER FOR REMOVING PARTS	ITEM No.
∘ Bottom Case	5-1

1. Remove one (1) screw holding the EVF shield and pull out the MIC circuit board in the direction of the arrow from the top case. (See Fig. 2-154)
2. Disconnect connector CN401 on the MIC circuit board. (See Fig. 2-155)

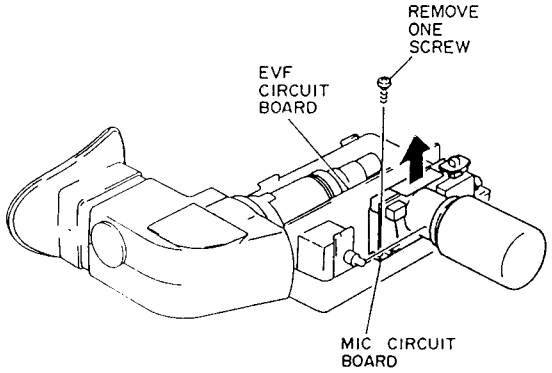


Fig. 2-154

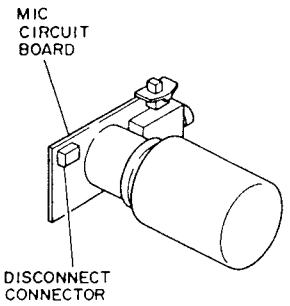


Fig. 2-155

5-4. CRT

ORDER FOR REMOVING PARTS	ITEM No.
∘ Bottom Case	5-1
∘ EVF Circuit Board	5-2

1. Release two (2) tabs and remove the eye cup. (See Fig. 2-156)
2. Open the mirror cover.
3. Remove one (1) screw holding the EVF lens bottom cover.
4. Open the EVF lens bottom cover in the direction of the arrow and remove the CRT from the EVF lens top cover.

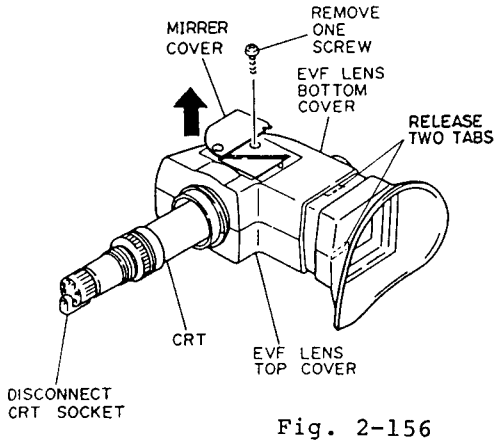
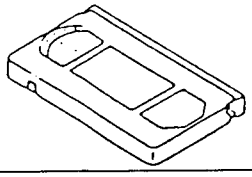
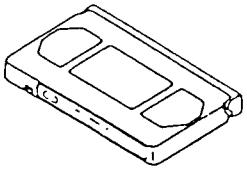
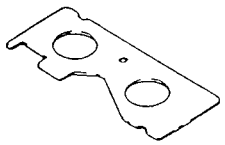
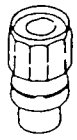
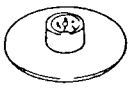
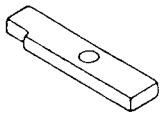
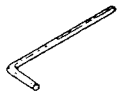
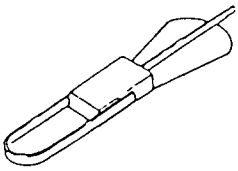
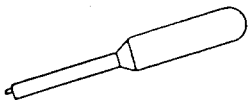
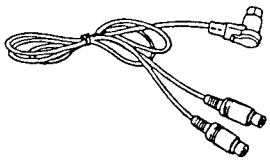
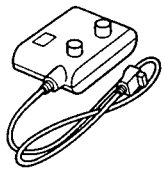
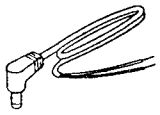
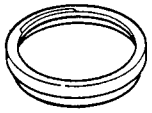


Fig. 2-156

6. TABLE OF FLAT PACKAGE ICS,/ SOLDERING IRON TIPS

SYMBOL No	DESCRIPTION	IRON TIP -No
CAMERA SECTION		
IC102	MN5128	6
IC103	MN3107CS	13
IC105	HA118120	6
IC106	MN3819S	12
VTR SECTION		
IC204	MM1002	11
IC206	NJM2228	14
IC208	NJM2235M	14
IC601	HD49741	6
IC901	HD4074719	7
IC902	MM1028BT	13

JIGS AND TAPES FOR ADJUSTMENT

1. Back Tension Meter Parts No.7099004 	2. PAL Alignment Tape (MH-2) Parts No.7099052 	3. Master Plane Parts No.7099279 	4. Torque Gauge Parts No.7099039 
5. Torque Gauge Adapter Parts No.7099204	6. Dummy Reel Parts No.7099043 	7. Reel Disk Height Jig Parts No.7099038 	8. 0.9mm/1.27mm/1.5mm Hexagonal Wrench 1.27mm: No.7099329 
9. Fan Type Tension Gauge 	10. Back Focus Adjustment Driver Parts No.7099205 	11. AV Input Cable 	12. RF Converter Unit (VM-RF70E) 
13. Ext. Power Cable Parts No.7099326 	14. 10-Pin, 14-Pin Extension Cable 10-Pin: No.7099382 14-Pin: No.7099383	15. Light Balancing Filter 	

CHAPTER 3 MECHANICAL ADJUSTMENT

1. TAPE LOADING SYSTEM COMPONENTS ADJUSTMENT

1-1. LOADING CAM GEARS (SUPPLY/TAKE-UP) ADJUSTMENT (Fig. 3-1)

Always perform this adjustment when reinstalling the loading cam gears.
Be sure to check this adjustment when reinstalling the loading gear.

1. Align mark (A) on the supply loading cam gear and mark (B) on the take-up loading cam gear when reinstalling them. Check that the supply and take-up guide roller bases are in the unloading state.

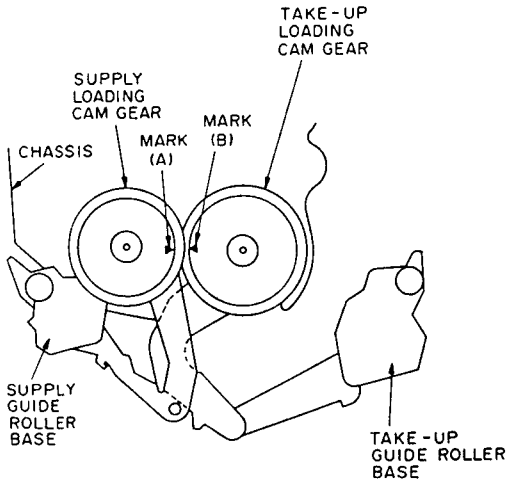
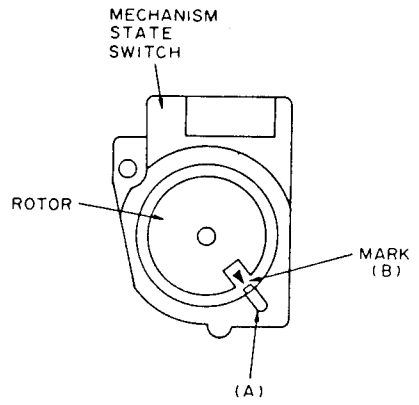


Fig. 3-1

1-2. MECHANISM STATE SWITCH AND DRIVING GEAR ADJUSTMENT (Figs. 3-2, 3-3)

Be sure to perform this adjustment when reinstalling the mechanism state switch and driving gear.

1. Align section (A) of the mechanism state switch and section (B) of the rotor. (See Fig. 3-2)
2. Align hole (D) in the relay gear and hole in the chassis.
3. Move the cassette holder lock drive arm so that the pin comes into connect with section (H) of the cam gear arm. Reinstall the driving gear following the procedure below in this condition. (See Fig. 3-3)
4. Install the driving gear into the chassis so mark (E) on the relay gear and hole (F) in the driving gear are aligned. Check that hole (G) of the driving gear and the hole in the chassis overlap each other at this time. (See Fig. 3-2)
5. Install the mechanism state switch in the condition set in step 1 into the chassis. Check that mark (C) on the mechanism state switch, mark (E) on the relay gear and hole (F) in the driving gear are lined up in straight line.



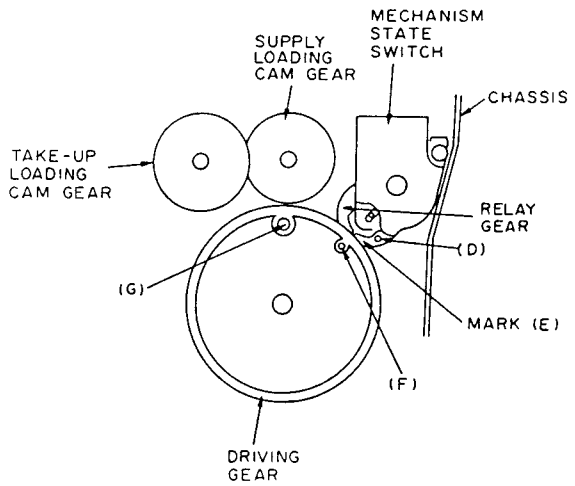


Fig. 3-2

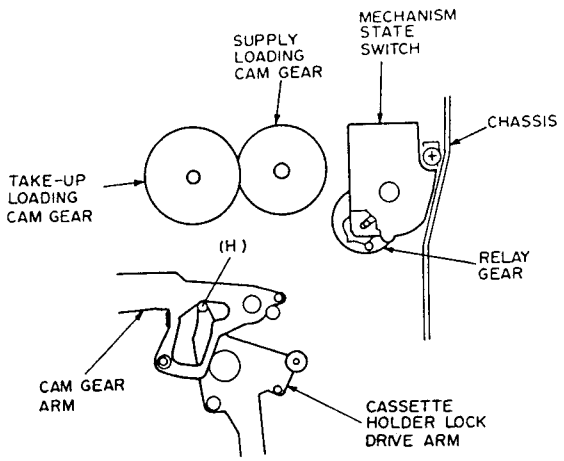


Fig. 3-3

1-3. LOADING GEAR AND TENSION POLE DRIVE ARM ADJUSTMENT (Fig. 3-4)

Be sure to perform this adjustment when reinstalling the loading gear and tension pole drive arm. Perform this adjustment after checking that the loading cam gears are installed correctly and are in the unloading state.

1. Reinstall the loading gear so its mark (A) and mark (B) on the supply loading cam gear are aligned.
2. Reinstall the tension pole drive arm so mark (D) on the relay gear and hole (C) in the tension pole drive arm are aligned.

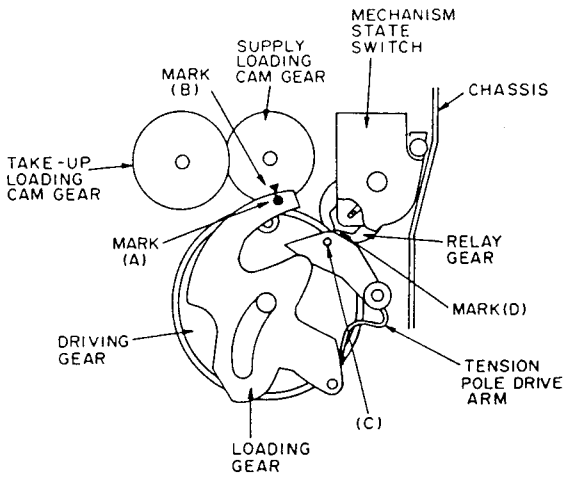


Fig. 3-4

2. TAPE TRANSPORT SYSTEM COMPONENTS CHECK/ADJUSTMENT

The tape transport system is the path from the supply reel to the take-up reel via the video heads. The tape transport components, especially the components which come into direct contact with the tape, should be kept clean without damage, dust and oil, etc. adhering to the contact surfaces. The tape transport system is adjusted before shipment from the factory, so when any transport components are replaced, the transport system is stabilized by correctly adjusting the new components.

2-1. REEL DISK HEIGHT ADJUSTMENT (Fig. 3-5)

1. Remove the cassette lid, right case and mount the master plane to the cassette holder.
2. Place a reel disk height jig on the master plane and fit it to the reel disk.
3. Check that the top of the reel disk is positioned between sections A and B of the reel disk height jig.
4. When the top of the reel disk is not positioned between section A and B, adjust the number of the spacers (2 types: 0.25 mm and 0.5 mm thick) at the bottom of the reel disk.

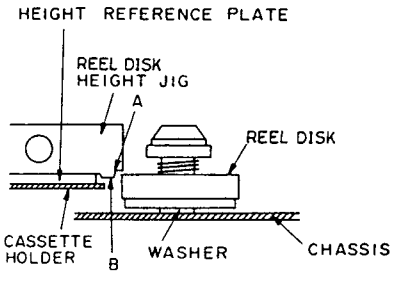


Fig. 3-5

2-2. TENSION POLE POSITION/TENSION ADJUSTMENT (Fig. 3-6)

Position Adjustment (Fig. 3-6)

1. Set the tension spring to position "C" on the spring holder.
2. Cover up the supply end sensor photocell located midway on the left side of the tape mechanism.
3. Place instrument in the "PLAY" mode.
4. After loading is completed, loosen screw (B) holding the tension band holder and adjust the position of the tension band holder so the tension pole is in section (A) (concave) of the guide roller rail.
5. After adjustment is completed, tighten screw (B).

Tension Adjustment (Fig. 3-6)

1. Load the instrument with the back tension meter.
2. Place the instrument in the "PLAY" mode.
3. Read the scale on the supply.
4. This reading should be between 19 and 26.
5. Move the tension arm spring to the position "A" or "B" on the spring holder when the tension adjustment tape reads 27 or higher, and to the position "D" or "E" on the spring holder when it is 18 or lower, and adjust the back tension for a nominal reading of 19-26 on the scale.
6. Recheck the tension arm position when the back tension is changed greatly (5 or more).

Note: The instrument must be in a horizontal position for this adjustment.

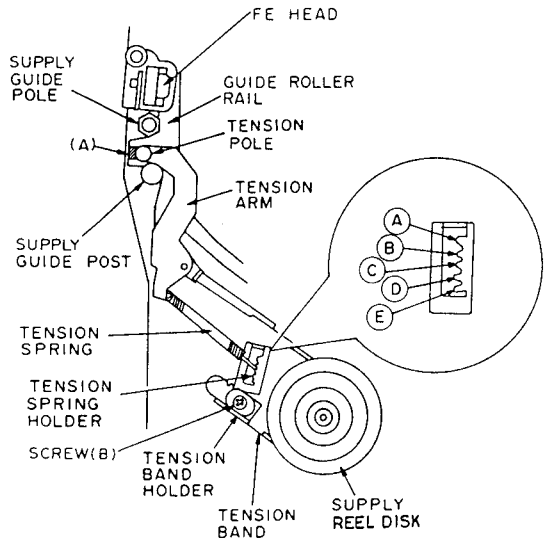


Fig. 3-6

2-3. SUPPLY/TAKE-UP GUIDE POLE HEIGHT ADJUSTMENT (Fig. 3-7)

Take-up Guide Pole Height Adjustment

1. Remove the cassette lid, right case and mount the master plane to the cassette holder.
2. Place a reel disk height jig on the master plane and fit it to the guide pole.
3. Adjust the nut on the top of the guide pole so that the upper flange is aligned with the top edge of the height jig.

Supply Guide Pole Height Adjustment

1. Run the tape and adjust the height of the take-up guide pole so that the bottom of the tape is aligned with the top of the lower flange.

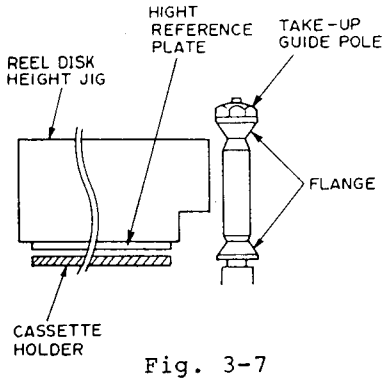


Fig. 3-7

2-4. SUPPLY/TAKE-UP GUIDE ROLLER HEIGHT ADJUSTMENT (Figs. 3-8, 3-9)

1. Remove the cassette lid, right case and mount the master plane to the cassette holder.
2. Place a reel disk height jig on the master plane and fit it to the supply guide roller.
3. Loosen the screw holding the supply guide roller and adjust its height so the bottom of the roller's upper flange and the top of the reel height jigs are aligned. Adjust the take-up guide roller in the same way.
4. After adjustment is completed, tighten the screw holding the guide roller.
5. Run the tape and check that the tape does not curl and ride over, and then perform the electrical adjustment.
6. Connect the oscilloscope to TP203 on the main board.
7. Trigger the oscilloscope at SW 25Hz. (Use TP206 on the main circuit board.)
8. Playback the colour bar signal on alignment tape (MH-2) and press the two (2) TRACKING control buttons (up and down) simultaneously.
9. Check that the FM waveform is flat.
10. If the FM envelope is not flat, fine adjust the height of the supply and take-up guide rollers to flatten the FM envelope.
11. Tighten the fixing screw.

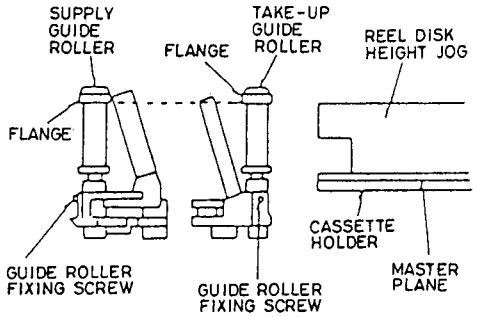
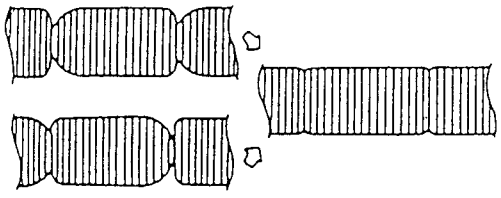


Fig. 3-8

MC-Service



Turn guide roller height ajustment screw a little of a time to fratten waveform.

Fig. 3-9

2-5. A/C HEAD ADJUSTMENT

(Figs. 3-10, 3-11, 3-12)

Perform the height, tilt and azimuth adjustments repeatedly to determine the A/C head installation position, then adjust the X value.
Detailed adjustment below is the procedure when the A/C head is replaced; be sure to do precise adjustment after rough adjustment.

Rough Adjustment (Fig. 3-10)

1. Remove the cassette lid, right case and mount the master plane to the cassette holder.
2. Adjust NUT (A), AZIMUTH SCREW (B), TILT HEX. SCREW (C) and SCREW (D) so the height difference between the height reference plate and A/C head plate is approx. 1.78 mm and A/C head base and A/C head plate are parallel.

Precise Adjustment (Figs. 3-10, 3-11)

3. Connect the oscilloscope to audio output (AV OUT).
4. Playback a 1 kHz audio signal (colour bar signal) on alignment tape (MH-2).
5. Adjust AZIMUTH SCREW (B) and TILT HEX. SCREW (C) for maximum output.

X-Value Adjustment (Figs. 3-10, 3-12)

6. Connect the oscilloscope to TP203 on the main board.
7. Trigger the oscilloscope at SW 25Hz. (Use TP206 on the main board)
8. Press the two (2) TRACKING control buttons (up and down) simultaneously.
9. Playback the colour bar signal on alignment tape (MH-2).
10. Adjust the X-value adjustment nut so the signal at TP203 (FM envelope) is maximum. Press the two (2) TRACKING control buttons (up and down) and check that the FM envelope becomes as shown in Fig. 3-12.

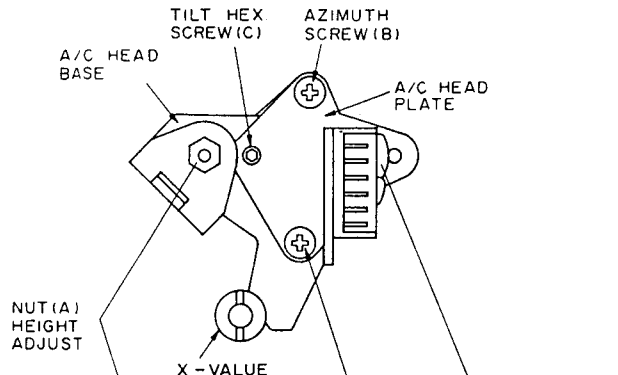


Fig. 3-10

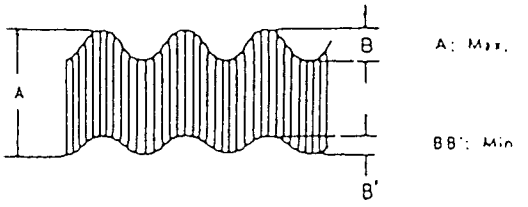


Fig. 3-11

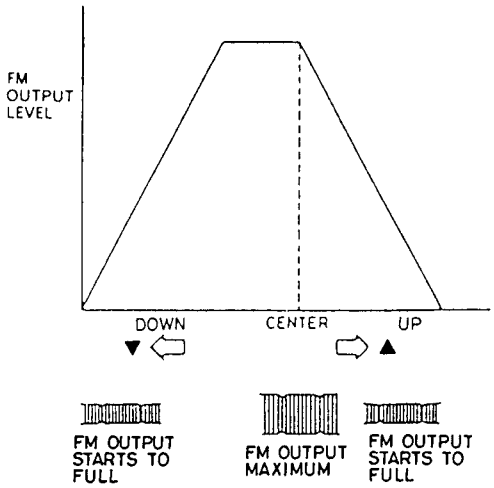


Fig. 3-12

2-6. ADJUSTMENT AFTER REPLACING THE CYLINDER (Fig. 3-13)

When the cylinder is replaced, the relative height with respect to the guide rollers or the X-value, etc. drifts (this drift is small when the cylinder is replaced correctly). Therefore, it is necessary to readjust the tape transport system and servo system. Perform checks and adjustments by the following steps.

1. Load a blank tape and play it. Check that no curling or creasing occurs around the guide rollers. If curling or creasing occurs, fine adjust the height of the guide rollers.
2. Confirm that the FM envelope is flat and level fluctuations are minimum. If it cannot be confirmed, adjust the

height of the guide rollers. See the next item for perform these checks adjustment.
3. Check or adjust the head switching point. See CHAPTER 4 for how to adjust this item.
4. Confirm that the X-value adjustment is correct (do not adjust the X-value even if it is not correct). If it can be confirmed, proceed to step 7, and if it cannot be confirmed, proceed to step 5.
5. Check or adjust the tracking preset. See CHAPTER 4 for how to adjust this item.
6. Adjust the X-value.

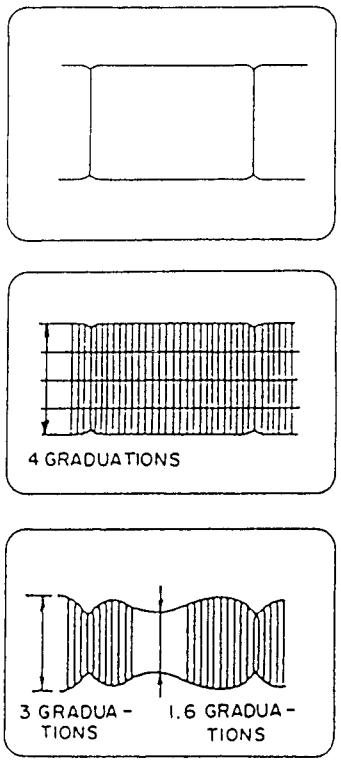


Fig. 3-13

7. Adjust the record chroma level. See CHAPTER 4 for how to adjust this item.

Check Flatness and Level Fluctuations of the FM Output (Fig. 3-13)

1. Connect the oscilloscope to TP203 on the main circuit board.
2. Trigger the oscilloscope at SW 25Hz. (Use TP206 on the main circuit board.)
3. Press the two (2) TRACKING control buttons (up and down) simultaneously.
4. Fine adjust the voltage level range of the oscilloscope and set the FM output to 4 graduations.
5. Press either TRACKING control button (up and down) to set the FM output to the maximum 3 graduations.
6. Check that the minimum amplitude is more than 2.0 graduations.

3. TENSION AND TORQUE CHECKS (Fig. 3-14)

It is necessary to check the tension, torque and compression strength in the tape take-up section and moving section to smoothen the tape transport and to satisfy the basic performance of the VTR. When the tape transport is not smooth or the tape speed is abnormal, detect the faulty section by this checking, and then check again after replacing the faulty parts with normal ones to complete the work.

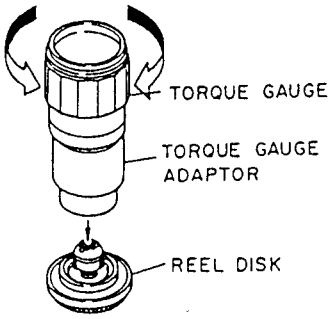


Fig. 3-14

Item	VTR Operation	Measured Reel	Measurement Value	Remarks
Main brake torque	STOP	Supply	140 g.cm or more	Fig. 3-14
		Take-up	100 g.cm or more	
Slack removal torque	UNLOADING	Supply	90-200 g.cm	Fig. 3-14
Fast forward torque	F.FWD	Take-up	400 g.cm or more	Fig. 3-14
Rewind torque	REW	Supply	400 g.cm or more	Fig. 3-14
Take-up torque	PLAY	Take-up	80-110 g.cm	Fig. 3-14
Back-tension torque	F.FWD	Supply	4 - 10 g.cm	Fig. 3-14
	REW	Take-up		

CHAPTER 4 ELECTRICAL ADJUSTMENT

1. CONNECTIONS FOR ADJUSTMENT

Remove the right case and left case as described previously.

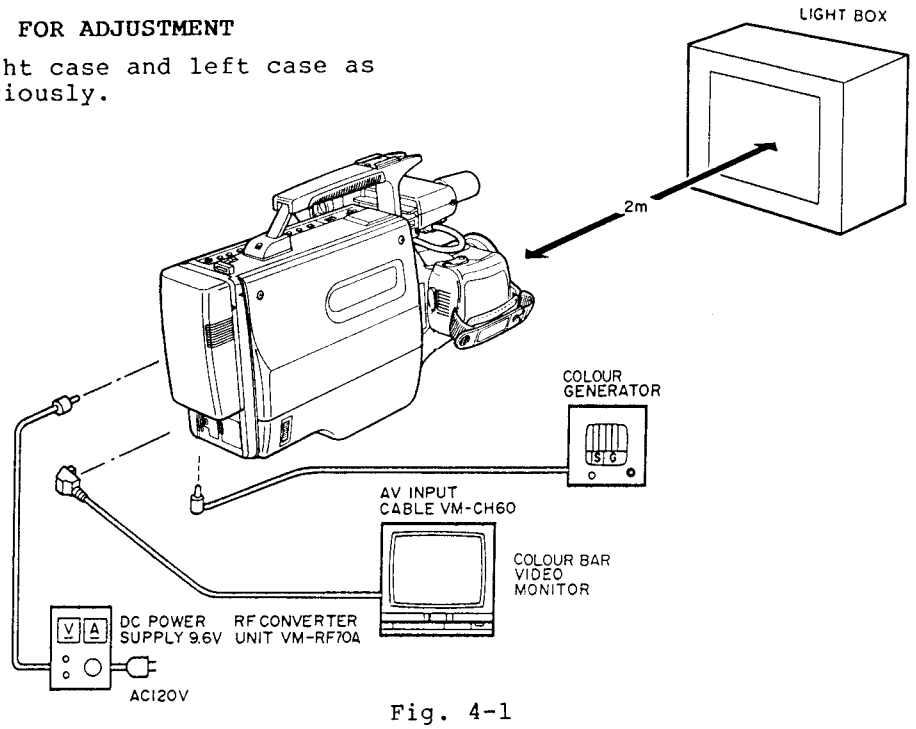


Fig. 4-1

2. CAMERA SECTION ADJUSTMENT

2-1. CIRCUIT BOARD LOCATIONS AND SERVICING POSITION

1. Autofocus Circuit Board
2. Sensor Circuit Board
3. DC-DC Converter
4. Control Circuit Board
5. Process Circuit Board

A. 10-Pin Extension Cable (Part No. 7099382). Connect the sensor circuit board and process circuit board.

B. 14-Pin Extension Cable (Part No. 7099383). Connect the sensor circuit board and process circuit board.

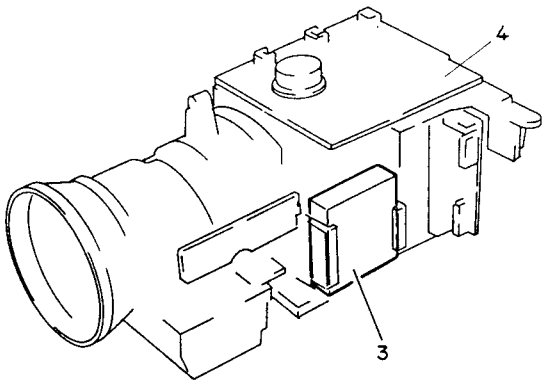


Fig. 4-3

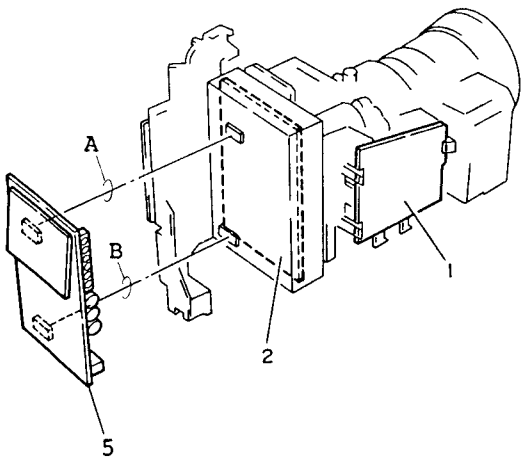


Fig. 4-2

2-2. TEST EQUIPMENT AND CHARTS NECESSARY FOR ADJUSTMENT

- Test Equipment
  - Oscilloscope (dual trace)
  - (Vectorscope)
  - Digital Voltmeter (DVM)
  - Frequency Counter
  - Colour Video Monitor
- Charts, etc.
  - Gray Scale Chart
  - Colour Bar Chart
  - Resolution Chart
  - Backfocus Adjustment Chart
  - Light Box (3100°K)
  - DC Power Supply (9.6 V)
  - DC Power Supply (3.3 V)
  - Backfocus Adjustment Driver
  - Light Balancing Filter (C12)

2-3. ADJUSTMENT CONDITIONS

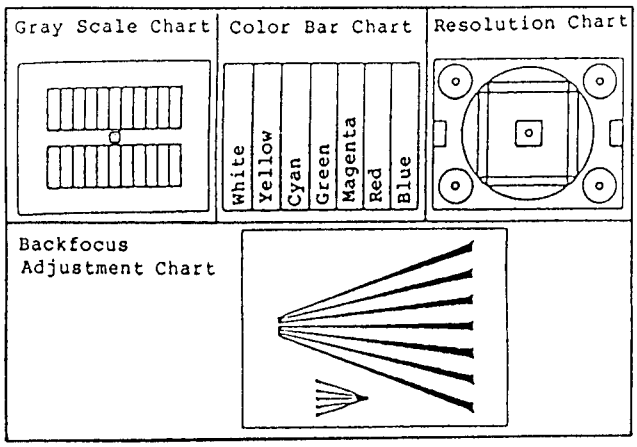
1) Check that the VTR section has been adjusted correctly before adjusting the camera section.
2) Connect this unit, a power supply and a colour video monitor as shown in Fig. 4-1.
3) Place the chart (light box) 2 m away from the camera (lens surface) when otherwise not specified.
4) Point the camera at the chart to fill the video period when otherwise not specified.
5) Use the 10:1 probe of the oscilloscope when otherwise not specified.
6) When "Trigger the oscilloscope at H. rate." is specified, set the time base of the oscilloscope to 10 µs/div.
7) When using VIDEO OUT (in the AV output jack) to perform adjustment, be sure to terminate the AV output jack with 75 ohm.

2-4. PRESET POSITIONS OF SWITCHES AND CONTROLS DURING ADJUSTMENT

OPERATE	"ON"
CAM./VIDEO switch	"CAM." position
SHUTTER switch	"MAN" position
Shutter Speed	"60 (1/60)"
NEGA/POSI switch	"POSI" position
IRIS control	"AUTO (Centre)" position
FOCUS switch	"MAN" position
TITLE	"OFF"

2-5. LIST OF CHARTS FOR CAMERA ADJUSTMENT

Table 4-1



2-6. CAMERA ADJUSTMENT

1) Subcarrier Frequency Adjustment (Figs. 4-51, 4-52)

This adjustment set for frequency adjustment of subcarrier.

Test Point: TP201-4 Process
Adjust: CT101 (Fo ADJ) Sensor
Observe: Frequency Counter

1. Connect the frequency counter to TP201-4.
2. Adjust CT101 for 9.656250MHz ± 20Hz.

Note: Be careful when applying an adjustment driver to CT101 because the stray capacitance of the driver may vary the frequency.

2) Subcarrier Lock Voltage Adjustment (Fig. 4-52)

This adjustments sets the subcarrier lock voltage to the specified value.

Test Point: TP201-1 Process
Adjust:
CT201 (SUBCARRIER LOCK VOLT.) Process (IC203)

Observe: DVM

1. Connect the DVM to TP201-1.
2. Adjust CT201 (on the IC203) for 2.5V ± 0.3V.

Note: Be careful when appling an adjustment driver to CT201 because the stray capacitance of the driver may vary the voltage.
Use non-metalic adjustment tool.

3) Backfocus Adjustment (Fig. 4-4)

The propose of this adjustment is to ensure proper focus tracking throughout the zoom range.

Adjust: BACKFOCUS ADJUSTMENT POINT (BACKFOCUS LENS)
Observe: Colour Video Monitor

1. Position the camera section two (2) meters from the backfocus adjustment chart and illuminate the object with approximately 100 lux.
2. Set the zoom to wide-angle end and set the index on the focus ring to two (2) meters.
3. Loosen the relay lens retaining screw.
4. Insert the backfocus adjustment driver into the backfocus adjustment hole and turn it to the left and right to optimize the focus.
5. Set the zoom to telephoto end and check that the chart is in focus. If it is not focused, set the zoom to wide-angle and readjust step 4.
6. Adjust so that the chart is approximately in focus at both the wide-angle and telephoto ends with the focus ring set to two (2) meters.

Note: After adjustment is completed, tighten the relay lens retaining screw and fix it with locking paint.

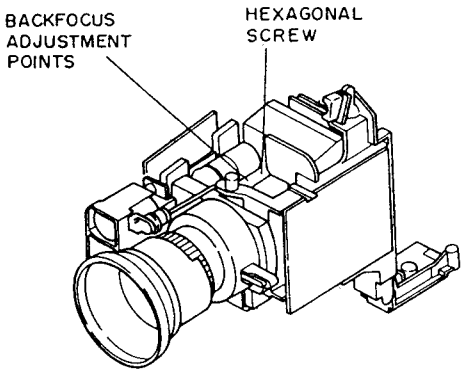


Fig. 4-4

4) Sensor Sub Voltage Adjustment
(Figs. 4-5, 4-51)
This adjustment prevents vertical blooming.

Test Point:
VIDEO OUT (AV output jack)
Adjust:
RT101 (SENSOR SUB VOLTAGE) Sensor
Observe: Colour Video Monitor

1. Point the camera at a 40 W to 60 W incandescent lamp one (1) meter away. (See Fig. 4-5)
2. Turn RT101 fully counterclockwise and then turn it gradually clockwise to adjust so that the band of blooming appearing in the vertical direction of the monitor screen just disappears.

Note: Stop RT101 Where blooming disappears and careful not to turn it too far.

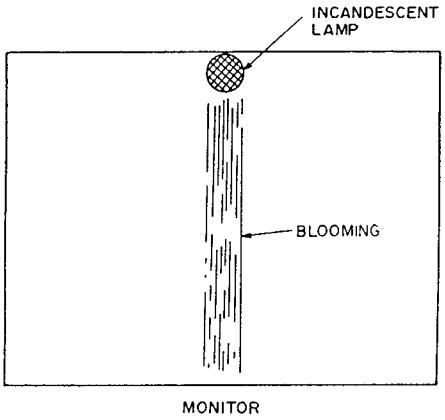


Fig. 4-5

5) Luma Setup Adjustment
(Figs. 4-6, 4-52)
This adjustment sets the brightness of the picture.

Test Point:
VIDEO OUT (AV output jack)
Adjust:
RM201-4 (LUMA SETUP) Process
Observe: Oscilloscope

1. Cap the lens.
2. Set the IRIS control to CLOSE position.
3. Connect the oscilloscope to video out.
4. Trigger the oscilloscope at H. rate. (Use TP201-3 (HD) on the process circuit board.)
5. Adjust RM201-4 for 35mV ± 15mV (5IRE ± 2IRE) from the blanking level to the centre of the waveform.
6. Set the IRIS control to AUTO position.

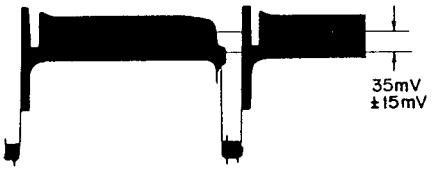


Fig. 4-6

6) AIC Level Adjustment
(Figs. 4-7, 4-52)
This adjustment sets the balance point of the auto iris control.

Test Point:
VIDEO OUT (AV output jack)
Adjust RM201-5 (AIC) Process
Observe: Oscilloscope

1. Aim the camera at the gray scale chart.
2. Connect the oscilloscope to video out.
3. Trigger the oscilloscope at H. rate. (Use TP201-3 (HD) on the process circuit board.)
4. Adjust RM201-5 for 700mVp-p ± 15mV (98IRE ± 2IRE) from the blanking level to the centre of the white level on the gray scale.

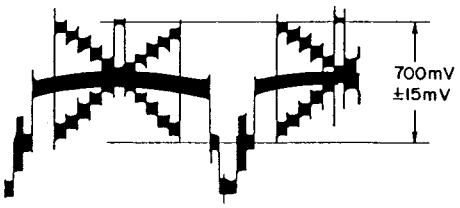


Fig. 4-7

7) White Balance Hold Voltage Setting
(Fig. 4-52)

Test Point: TP201-5 Process
TP201-11 (GND) Process
Observe: DVM

1. Cap the lens.
2. Connect the DVM and DC power supply to TP201-5.
3. Apply DC3.3V ± 0.05V to TP201-5.
4. Connect TP201-5 to ground (TP201-11) and remove ground (TP201-11) connection from TP201-5.

Note: White Balance Hold Voltage Setting is required prior to performing R-Y, B-Y Setup Adjustment and White Balance Adjustment.

8) R-Y, B-Y Setup Adjustment
(Figs. 4-8, 4-52)
This adjustment sets the proper black balance of the picture.

Test Point:
VIDEO OUT (AV output jack)
Adjust:
RM201-2 (B-Y SETUP) Process
RM201-3 (R-Y SETUP) Process
Observe: Oscilloscope
Vectorscope

Adjustment using the oscilloscope
(Fig. 4-8)
1. Cap the lens.
2. Connect the oscilloscope to video out.

3. Trigger the oscilloscope at H. rate. (Use TP201-3 (HD) on the process circuit board.)
4. Adjust RM201-2 and RM201-3 for minimum carrier in the waveform.

Adjustment using the vectorscope
See Page 4-6.

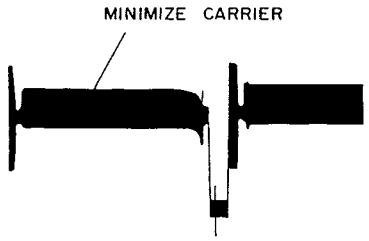


Fig. 4-8

9) White Balance Adjustment
(Figs. 4-9, 4-52)
This procedure sets the correct red and blue signal levels for proper white balance circuit operation.

Test Point:
VIDEO OUT (AV output jack)
Adjust: RT201 (RED GAIN) Process
RT202 (BLU GAIN) Process
Observe: Oscilloscope
Vectorscope

Adjustment using the oscilloscope
(Fig. 4-9)
1. Attach the light balancing filter C12 over the lens.
2. Aim the camera at the gray scale chart.
3. Connect the oscilloscope to video out.
4. Trigger the oscilloscope at H. rate. (Use TP201-3 (HD) on the process circuit board.)
5. Adjust RT201 and RT202 to minimize the carriers at each step of the waveform.

Adjustment using the vectorscope
See Page 4-6.

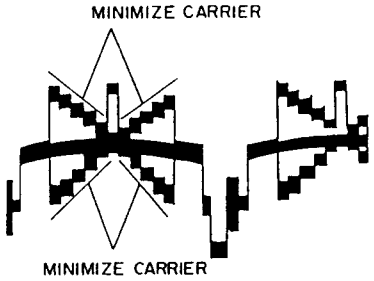


Fig. 4-9

10) Chroma Level Adjustment
(Figs. 4-10, 4-52)
This adjustment sets the chroma level.

Test Point:
VIDEO OUT (AV output jack)
Adjust:
RT203 (CHROMA LEVEL) Process
Observe: Oscilloscope
Vectorscope

Adjustment using the oscilloscope
(Fig. 4-10)
1. Remove the DC power supply (3.3V) from TP201-5.
2. Attach the light balancing filter C10 (C8 + C2) over the lens.
3. Aim the camera at the colour chart.
4. Connect the oscilloscope to video out.
5. Trigger the oscilloscope at H. rate. (Use TP201-3 (HD) on the process circuit board.)
6. Adjust RT203 so that the red level of the waveform is 600mV ± 50mV (84IRE ± 7IRE).
   Check that the tint of the chart and the tint of the picture are approximately matched at this time.

Adjustment using the vectorscope
See Page 4-6

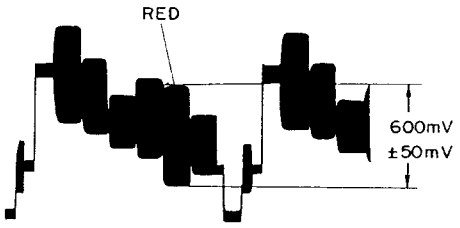


Fig. 4-10

2-7. ELECTRONIC VIEWFINDER (EVF) ADJUSTMENT

1) Deflection Yoke Position Adjustment
(Fig. 4-11)
This adjustment procedure eliminates picture tilt on the EVF display.

Adjust: Deflection yoke
Observe: EVF Display

1. Align the camera with the resolution chart making sure that both the camera and the chart are on the same plane.
2. Loosen the screw holding the deflection yoke.
3. Turn the deflection yoke so that the EVF picture (chart) is horizontal, matching the edges of the CRT.

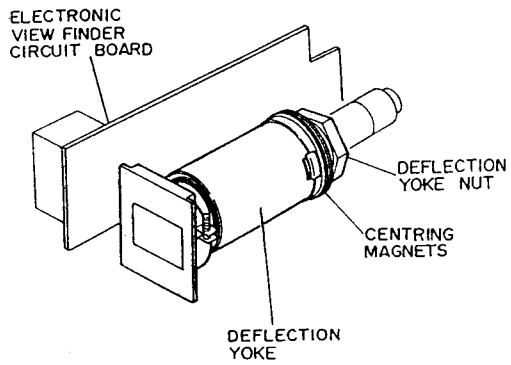


Fig. 4-11

Note: After adjustment is completed, tighten the deflection yoke retaining screw.

2) EVF Centring Adjustment (Fig. 4-11)
This adjustment centres the image observed by the camera in the EVF display.

Adjust: Centring Magnets
Observe: EVF Display

1. Aim the camera at the resolution chart and align the centre of the chart with the centre of the camera lens.
2. Remove the locking paint from the centreing magnets.
3. Adjust the centring magnets until the centre of the picture viewed by the camera is positioned in the centre of the EVF Display.

Note: After adjustment is completed, fix the centring magnets with lock paint.

3) EVF Vertical Size Adjustment (Fig. 4-53)
This adjustment determines the vertical size of the image appearing in the EVF display.

Adjust: RT802 (V. SIZE) EVF
Observe: EVF Display

1. Aim the camera at the resolution chart, and line up the reference arrow head with the edge of the raster in the EVF.
2. Adjust RT802 so that the top and bottom edges of the chart match the top and edges of the CRT.

4) EVF Brightness Adjustment (Fig. 4-53)
This adjustment sets the brightness of the picture in the EVF display.

Adjust: RT805 (BRIGHT) EVF
Observe: EVF Display

1. Aim the camera at the gray scale chart.
2. Adjust RT805 to optimize the EVF picture.

5) EVF Focus Adjustment (Fig. 4-53)
This control adjusts for optimum focus of the electronic viewfinder picture.

Adjust: RT803 (FOCUS) EVF
Observe: EVF Display

1. Aim the camera at the resolution chart.
2. Adjust RT803 so that the EVF picture is clear.

2-8. AUTOFOCUS ADJUSTMENT

1) Sensor Position Adjustment (Fig. 4-12)

Adjust: Sensor Adjustment Screw
Observe: Colour Video Monitor

1. Position the camera section two (2) meters from the backfocus adjustment chart and illuminate the object with approximately 100 lux.
2. Remove the autofocus adjustment cap.
3. Set the index on the focus ring to two (2) meters. Check that the chart is in focus. If it is not in focus, readjust the backfocus.
4. Set the zoom to telephoto end.
5. Set the FOCUS switch to AUTO position.
6. Operate the autofocus from the telephoto end to the wide-angle end and check that the chart is in focus with the index at two (2) meters.
7. If the chart is not in focus, turn the Sensor Adjustment Screw so the index on the focus ring is two (2) meters.

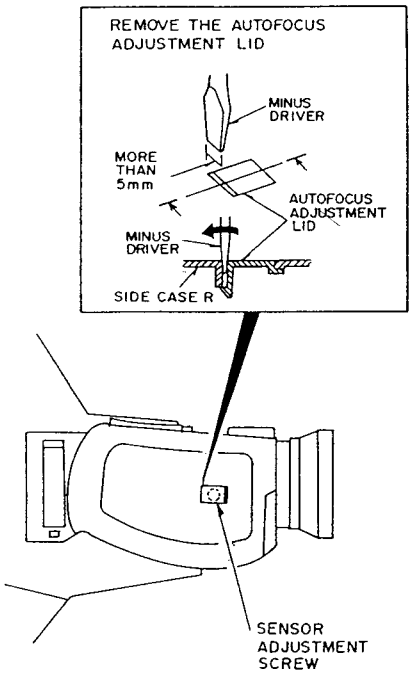


Fig. 4-12

2-9. ADJUSTMENT USING THE VECTORSCOPE

Note 1: Use the video output jack as the test point for all adjustments.
Note 2: Terminate the vectorscope with 75 ohm or connect the vectorscope to the video output jack terminated with 75 ohm.

ITEM No.	ADJUSTMENT NAME	SUBJECT	ADJUSTMENT POINT	PROCEDURE	Fig. No.
9)	R-Y, B-Y Setup Adjustment	Lens Cap	RM201-2 RM201-3	1. Cap the lens. 2. Apply DC 3.3V (± 0.05V) to TP201-5. (See ITEM 7)) 3. Adjust RM201-2 and RM201-3 so that the bright spot is positioned at the centre.	4-13
10)	White Balance Adjustment	Gray Scale	RT201 RT202	1. Apply DC 3.3V (± 0.05V) to TP201-5. (See ITEM 7)) 2. Attch the light balancing filter C12 over the lens. 3. Adjust RT201 and RT202 so that the bright spot is positioned at the centre.	4-13
12)	Chroma Level Adjustment	Color Bar	RT203	1. Attch the light balancing filter C10 (C2 + C8) over the lens. 2. Adjust RT203 so that the red vector is equal to more than 230% ± 5% when compared to the burst level.	4-14

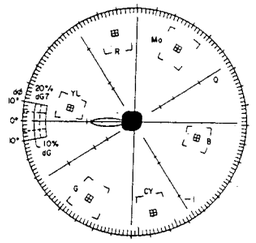


Fig. 4-13

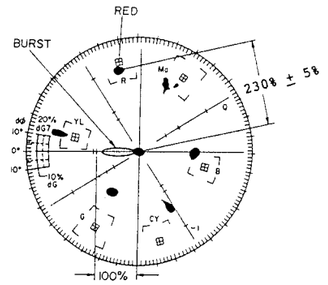


Fig. 4-14

2-9. ADJUSTMENT COMPONENTS LOCATIONS

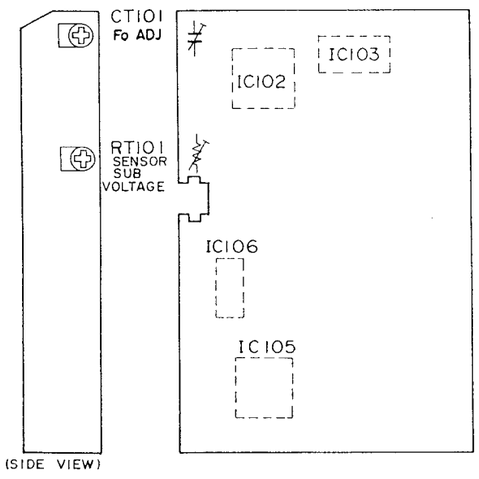


Fig. 4-51 Sensor Circuit Board (Solder Side)

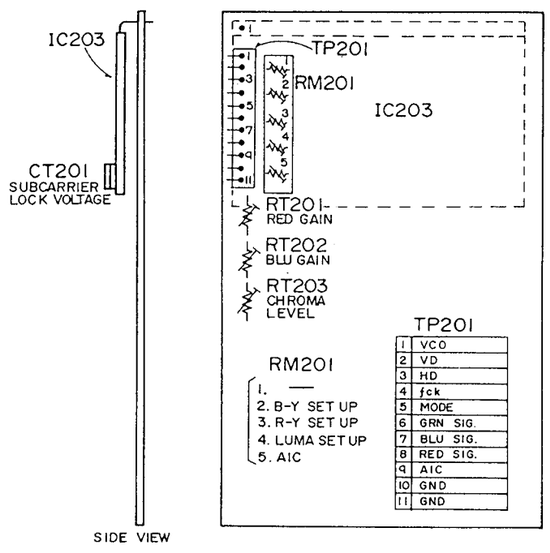


Fig. 4-52 Process Circuit Board (Components Side)

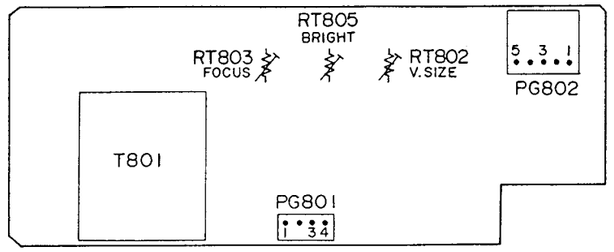


Fig. 4-53 Electronic Viewfinder Circuit Board (Components Side)

3. VTR SECTION ADJUSTMENT

3-1. CIRCUIT BOARD LOCATIONS AND SERVICING POSITIONS

Remove the right case and left case as described previously.
1. Main Circuit Board
2. Suplly Sensor Circuit Board
3. Take-up Sensor Cirucit Board

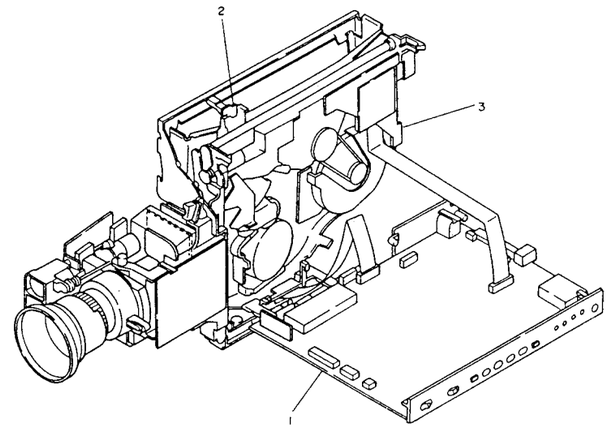


Fig. 4-101

3-2. TEST EQUIPMENT AND ALIGNMENT TAPES NECESSARY FOR ADJUSTMENT

- Test Equipment
  - Oscilloscope (dual trace)
  - Digital Voltmeter (DVM)
  - Millivoltmeter
  - Frequency Counter
  - Colour Video Monitor
- Alignment Tape and Charts, etc.
  - PAL Alignment Tape (MH-2)
  - Blank Tape
  - DC Power Supply (9.6V)

3-3. ADJUSTMENT CONDITIONS

1) Connect this unit, a power supply and a colour video monitor as shown in Fig. 4-1.
2) Before adjusting the VTR section, check that the camera section has been adjusted correctly.
3) Use the 10:1 probe of the oscilloscope when otherwise not specified.
4) When "REC" mode is specified, set the CAM./VIDEO switch to CAM. position and press the REC start stop button on the autofocus circuit board or STILL button on the function switchs.
5) When "TRACKING PRESET" position is specified, press the two (2) TRACKING control buttons (up and down) simultaneously.

3-4. PRESET POSITIONS OF SWITCHES AND CONTROLS DURING ADJUSTMENT

OPERATE ..... "ON"
CAM./VIDEO switch ..... "VIDEO" position
TRACKING ..... "Preset" position

3-5. SERVO SECTION

1) Head Switching Point Adjustment
(Figs. 4-102, 4-151)
The pulse generator shifter determines the video head switching point during playback. Misadjustment of pulse generator shifter may cause head switching noise in the picture and/or vertical instability.

Test Point: VIDEO OUT (AV output jack)
TP206 (SW 25Hz) Main
Adjust: RT601 (PG SHIFTER) Main
Observe: Oscilloscope

MC-Service

1. Set the VIDEO/CAM switch to the VIDEO position.
2. Load the instrument with a PAL alignment tape (MH-2) and play it back the colour bar signal.
3. Connect the oscilloscope to video out. (0.5V/50µsec.cm).
4. Trigger the oscilloscope at SW 25Hz.
5. Set the oscilloscope to (-) slope and adjust RT601 so that the trailing edge of the SW 25Hz signal is placed 6.5H ± 0.5H (horizontal) lines before the start of CH-1 vertical sync.
6. Set the oscilloscope to (+) slope and confirm the leading edge of the SW 25Hz signal is 6.5H ± 0.5H (horizontal) lines before the start of CH-2 vertical sync.

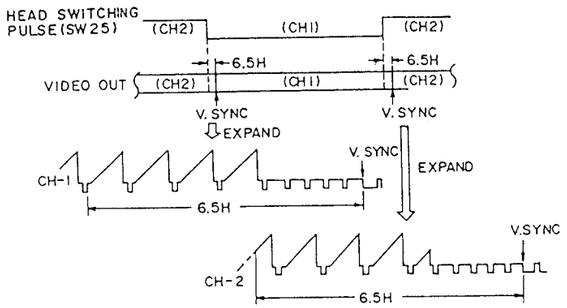


Fig. 4-102

3-6. LUMINANCE/CHROMA SECTION

1) Record Chroma Level Adjustment
(Figs. 4-103, 4-151)
Optimum record colour level is regulated by this adjustment. If the record chroma level is too high, diamond beats can be seen in the screen. If the levels is too low, the colour is degraded.

Test Point: TP202 Main
TP206 (SW 25Hz) Main
Adjust:
RT202 (REC CHROMA LEVEL) Main
Observe: Oscilloscope

1. Apply a PAL colour bar siganl to AV IN jack.
2. Adjust the input colour bar signal level for 1Vp-p measured at the video input jack.
3. Connect the oscilloscope to TP202. (Use the shield cover on the main circuit board of the preamp section as ground.) (50mV/2msec.cm)
4. Trigger the oscilloscope at SW 25Hz.
5. Load the instrument with a blank tape.
6. Place the instrument in the "REC" mode.
7. Adjust RT202 so that the record chroma level is 120mV ± 5mV.

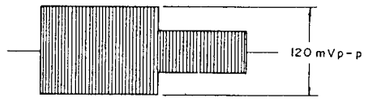


Fig. 4-103

2) 1H Delay Line Output Level Adjustment (Figs. 4-104, 4-151)
This adjustment makes the input and output levels of the 1H delay Line the same. If this adjustment is incomplete, switching noise is conspicuous when dropout is compensated.

Test Point: IC202-5 Main
TP206 (SW 25Hz) Main
Adjust:
RT201 Main
(1H DELAY LINE OUTPUT LEVEL)
Observe: Oscilloscope

1. Load the instrument with an PAL alignment tape (MH-2) and play it back the colour bar signal.
2. Connect the oscilloscope to IC202-5. (0.2V/5msec.cm).
3. Trigger the oscilloscope at SW 25Hz. (Use TP206 on the main circuit board.)
4. Adjust RT201 to minimize noise at the waveform.

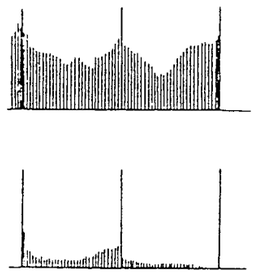


Fig. 4-104

3-7. AUDIO SECTION

1) Audio Bias Level Adjustment
(Fig. 4-151)
This adjustment optimizes the audio record bias.
When the audio record bias is too low, high frequencies are increased resulting in distortion. When the level is too high, high frequencies are attenuated.

Test Point: TP401 Main
TP402 (GND) Main
Adjust:
RT401 (AUDIO BIAS LEVEL) Main
Observe: Millivoltmeter

Note: Perform this adjustment without applying an audio signal.
1. Connect the millivoltmeter to TP401. (Use TP402 as ground.)
2. Load the instrument with a blank tape.
3. Place the instrument in the "REC" mode.
4. Adjust RT401 for 2.4mV ± 0.1mV.

2-10. ADJUSTMENT COMPONENTS LOCATIONS

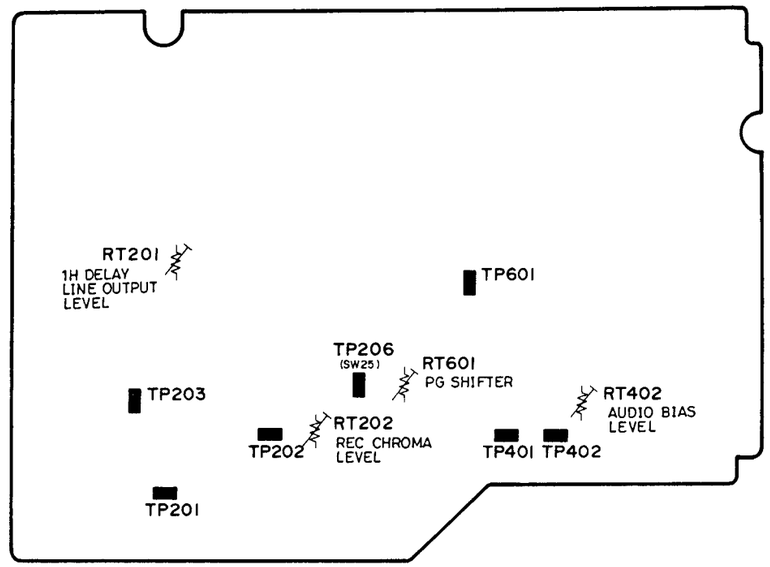


Fig. 4-151 Main Circuit Board (Solder Side)

CHAPTER 5 SCHEMATIC DIAGRAMS AND CIRCUIT BOARD DIAGRAMS

WHEN USING THIS SERVICE REFERENCE MATERIAL

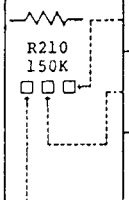
1. Markings in Schematic and Circuit Board Diagrams

(1) Parts with marks "■" attached to circuit numbers in the schematic and circuit board diagrams are discrete components.
(2) Parts with marks Ⓩ in the circuit board diagrams are leadless jumpers.

2. How to Read Abbreviations

Values, dielectric resistances (power capacitances), tolerances, grades of resistors (excluding variable resistors, etc.) and capacitors are indicated in the schematic diagrams using abbreviations. Collate these abbreviations and the following tables for reading abbreviations to replace parts correctly.

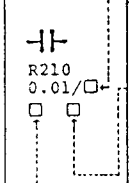
2-1. Resistors



Value	No indication ..... ohm K ..... kohm
Tolerance	No indication ..... ±5% K ..... ±10% M ..... ±20%
Power capacitance	No indication ..... 1/8W (All capacitances other than 1/8W are indicated in schematic diagrams with W omitted)
Type	No indication .. Carbon film fixed RC ..... Carbon solid RW ..... Power-type wire-wound solid RS ..... Metal oxide film solid RN ..... Metal film solid

Example
R210
150K ..... 150 kohm, carbon solid
RC.1/2.K 1/2W, ±10%

2-2. Capacitors



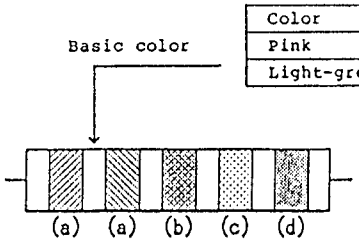
Value	No indication ..... μF P ..... PF
Dielectric resistance	No indication ..... 50WV (All resistances other than 50WV and those of electrolytic capacitors are indicated with WV omitted.)
Tolerances	No indication ..... ±10% J ..... ±5% M ..... ±20% C ..... ±0.25PF Z ..... +80%/-20% (No indication with electrolytic capacitors (excluding tantalum and high stability electrolytic capacitors)
Type	No indication .. Ceramic, general electrolytic (see circuit symbol to distinct from ceramic) MYL ..... Mylar (Polyester film) STY ..... Styrol TA ..... Tantalum KU ..... High stability electrolytic MP ..... Metalized paper

Example
C210
0.01/25 ..... Mylar, 0.01μF, 25WV
MYL.J ±5%

3. How to Read Capacitance of Resistance-Type Capacitors and Coils

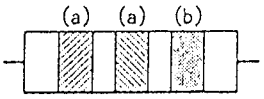
3-1 Capacitors

Color	Related voltage
Pink	25V
Light-green	50V



Color	Capacitance (a)	Multiplier (b)	Tolerance (c)	Characteristics (d)
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6	10^6		
Purple	7			
Gray	8		±30%	High permittivity type
White	9			For temperature compensation
Gold			±5%	
Silver			±10%	

3-2 Coils



4. Cautions on Use of MOS ICs

(1) MOS ICs are inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
(2) High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
(3) The human body and clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so workers should be grounded.
(4) Be sure to ground measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

5. Measure the voltages at each section with the negative side of power supply as a reference.

The voltages in the camera section are measured with the VTR in the record mode, and those in the VTR section are measured in the record and playback modes.

* Voltages in ( ) are in the record mode.
* One voltage value is common for recording and playback.

MC-Service

LEADLESS COMPONENT IDENTIFICATION

1. Leadless Transistors

The leadless transistor number is indicated by a code on its surface, using one letter, one letter and one numeral, two letters, two letters and one numeral, two numerals, two numerals and one letter, or three letters.

Letter	Transistor Number	Letter	Transistor Number
A	2SB709	H	2SA1036K
A(R)	2SB1218R(AR)	I	2SB792
A(S)	2SB766S(AS)	J	2SC2735
A(J)	2SB1000J(AJ)	K	2SA1036
B	2SC1621	K(P)	2SC2413P(KP)
B(J)	2SB1001J(BJ)	L	2SC2462
B(R)	2SC4081R(BR)	M	2SA1052
B(R)	2SC2412AR(BR)	N	2SC1653
B(S)	2SC2412KS(BS)	N(E)	2SD1306E(NE)
C	2SA1122	P	2SD814
C(L)	2SD999L(CL)	P(E)	2SA1171E(PE)
C(R)	2SB710R(CR)	Q	2SC2620
C(R)	2SC4097R(CR)	Q(O)	2SC2714O(QO)
C(R)	2SC2411R(CR)	R	2SC2618
C(Q)	2SC2411KQ(CQ)	S	2SA1121
D	2SC2463	S(Q)	2SC3082KQ(SQ)
D(L)	2SB798L(DL)	U	2SC2404
E	2SA1022	W	2SD602
F	2SC2619	Y	2SD601
F(S)	2SA1037KS(FS)	Y(R)	2SD1819R(YR)
F(R)	2SA1576R(FR)	Z	2SD874
-	- - -	-	- - -
AA(S)	2SD1757KS(AAS)	DB(R)	2SD1766R(DBR)
BC(R)	2SB1188R(BCR)	IR(D)	2SA1484D(IRD)
BF(R)	2SB1308R(BFR)		
-	- - -	-	- - -
1D(T)	2SD1328T(1DT)	1C(R)	2SB902R(1CR)
-	- - -	-	- - -
B(3)	2SC1621(3)(B3)	L(6)	MMBC1623(6)(L6)
C(7)	2SA811(7)(C7)	L(6)	2SC1623(6)(L6)
L(7)	2SC2812(7)(L7)	F(2)	2SC1009(2)(F2)
M(6)	2SA812(6)(M6)	M(6)	2SA1179(6)(M6)
N(4)	2SC1653(4)(N4)		
-	- - -	-	- - -
D(16)	2SC1622A(16)(D16)	R(25)	2SC3356(25)(R25)
R(35)	2SC3583(35)(R35)	R(45)	2SC3585(45)(R45)
Y(25)	NTM3906(25)(Y25)		
-	- - -	-	- - -
1(D)	2SC3127D(1D)		
-	- - -	-	- - -
S1	FMS1	S2	FMS2
T1	IMT1	W1	FMW1
W2	FMW2	W3	FMW3
X1	IMX1	Y1	FMY1
Y3	FMY3	Z1	IMZ1
Z2	IMZ2		
-	- - -	-	- - -
4R	XN1C301	5H	XN4501
5K	XN4401		
Digital Transistor			
04	DTC114TK	06	DTC144TK
13	DTA143EK	15	DTA124K
15(s)	DTA124EU	16	DTA144EK
16(s)	DTA144EU	23	DTC143EK
24	DTC114EK	24(s)	DTC114EU
25	DTC124K	25(s)	DTC124EU
26	DTC144K	26(s)	DTC144EU
33	DTA143XK	43	DTC143XK
52	DTA123YK	64	DTC114YK
-	- - -	-	- - -
6B	UN5112	8B	UN5212
-	- - -	-	- - -
F52	DTB123	G21	DTD113ZK
H03	DTC343TK	H27	DTC363EK
R31	FP1L2Q		
-	- - -	-	- - -
A1	FMA1	A2	FMA2
B2	IMB2	C2	FMC2
D2	IMD2	G1	FMG1
G2	FMG2	G5	FMG5
H2	IMH2		

Letter	Transistor Number	Letter	Transistor Number
FET			
G	2SK302	J	2SK208
K	2SK160	W	2SK322
X	2SK157	X(4)	2SK94(4)(X4)
X(17)	2SK425(17)(X17)		
Y	2SK197	Z	2SK217
-	- - -	-	- - -
XA	2SK980		
-	- - -	-	- - -
3	2SK620	3(O)	2SK621(O)(30)
-	- - -	-	- - -
1M	2SA1052	1F	2SK321
1K	2SK316	2B	2SK374

* "(s)" in the above table shows a component with smaller size.
* Codes on the digital transistors show only the transistor numbers.

(1) Identification for two letters.
Use this code and the following chart for component identification.

Example:

Code	Number
CD	2SA1122D
LD	2SC2462D

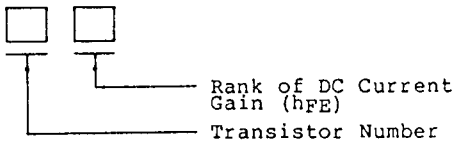


Fig.5-1 Leadless Transistor Code

(2) Identification for two types of one letter and one numeral.
Use this code and the following chart for component identification.

Letter	Transistor Number
L	2SC1623

Example:

Code	Number
L5	2SC1623(5)
L6	2SC1623(6)

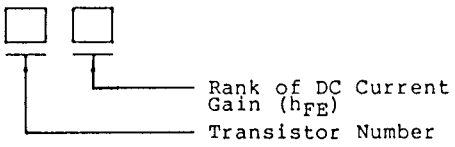
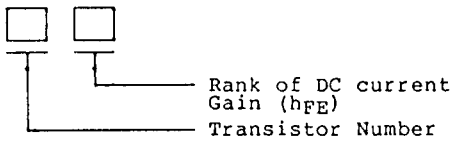


Fig.5-2 Leadless Transistor Code

Example:

Code	Number
1D	2SC3127D



Note: Codes S1, S2, T1, W1, W2, W3, X1, Y1, Y3, Z1 and Z2 show only the transistor numbers.

Fig.5-3 Leadless Transistor Code

(3) Identification for one numeral and two letters.
Use this code and the following chart for component identification.

Example:

Code	Number
1FQ	2SK321Q

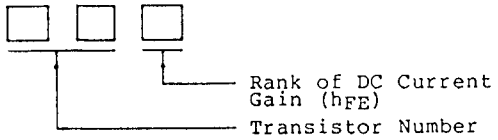


Fig.5-4 Leadless Transistor Code

(4) Identification for one letter and two numerals.
Use this coce and the following chart for component identification.

Example:

Code	Number
R25	25C3356

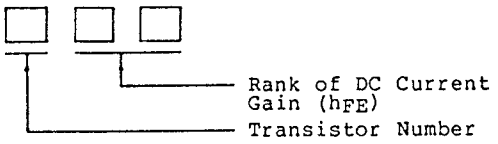


Fig. 5-5 Leadless Transistor Code

(5) Identification for two letters and one numeral.
Use this code and the following chart for component identification.

Example:

Code	Number
DV5	2SD596

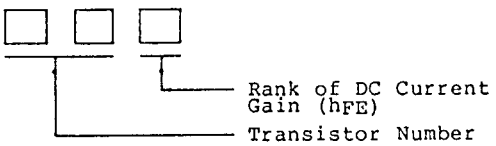


Fig. 5-6 Leadless Transistor Code

(6) Identification for three letters.
Use this code and the following chart for component identification.

Example:

Code	Number
AAS	2SD1757KS

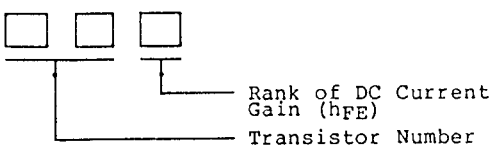


Fig. 5-7 Leadless Transistor Code

2. Leadless Diodes
Leadless diode numbers are indicated by a code on the surface, using one letter and one numeral, two letters, two letters and one numeral, two numerals, two numerals and one letter, or three numerals.
Use this code and the following chart for component identification.

Code	Diode Number	Code	Diode Number
BE	1SV172		
MC	MA153	MC(s)	MA143
MH	MA151K	MH(s)	MA141K
MN	MA151WA	MN(s)	MA141WA
MO	MA152WA		
MT	MA151WK	MT(s)	MA141WK
MU	MA152WK		
-	- - -	-	- - -
M1D	MA160	M1P	MA714
M2A	MA122	S1A	1SR143
-	- - -	-	- - -
N	DAN202K	Z	DA106K
-	- - -	-	- - -
A3	1S2835	A5	1S2837
C1	HSM88S	C2	HSM276S
-	- - -	-	- - -
1A	MA110		
-	- - -	-	- - -
3.0L	MA3030L	4.3L	MA3043L
4.7M	MA3047M	5.1M	MA3051M
5.1L	MA3051L	5.6M	MA3056M
6.2L	MA3062L	6.8M	MA3068
6.8M	MA3068M	7.5H	MA3075H
7.5L	MA3075L	8.2M	MA3082M
9.1M	MA3091	9.1M	MA3091M
10L	MA3100L	56M	MA3056M
75L	MA3075L	82M	MA3082M
91M	MA3091M		
-	- -	-	- - -
20	HZM6-B	27	RD2.7M-B
30	RD3.0M-B	51	RD5.1M-B2
56	RD5.6M-B	91	RD9.1M-B
-	- -	-	- - -
102	RD10M-B2	122	RD12M-B2
163	RD16M-B3	182	RD18M-B2
271	RD2.7M-B	272	RD2.7M-B2
301	RD3.0M-B	362	RD3.6M-B2
391	RD3.9M-B1	512	RD5.1M-B2
561	RD5.6M-B	621	RD6.2M-B1
681	RD6.8M-B	683	RD6.8M-B3
911	RD9.1M-B		

* "(s)" in the above table shows a component with smaller size.

3. Leadless Resistors
The resistor value is indicated on the surface of the component, using a three-digit numbers, or one letter and one numeral.

(1) Identification for three digit numbers.
Read this code following the same procedure as when reading the color code on discrete resistors.

Example:

Code	Value
330	33×10^0 = 33 ohms
561	56×10^1 = 560 ohms
123	12×10^3 = 12K ohms
1R2	1 + 0.2 = 1.2 ohms

(R: Decimal point)

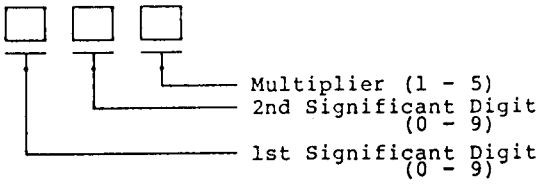


Fig. 5-8 Leadless Resistor Code

(2) Identification for one letter and one numeral.
Use this code and the following chart for component identification.

MC-Service

Letter	Value	Letter	Value	Letter	Value
A	1	J	2.2	S	4.7
C	1.2	L	2.7	U	5.6
E	1.5	N	3.3	W	6.8
G	1.8	Q	3.9	Y	8.2

Example:

Code	Value
A1	$1 \times 10^1 = 10$ ohms
G2	$1.8 \times 10^2 = 180$ ohms
L3	$2.7 \times 10^3 = 2700$ ohms
S4	$4.7 \times 10^4 = 47K$ ohms
W5	$6.8 \times 10^5 = 680K$ ohms

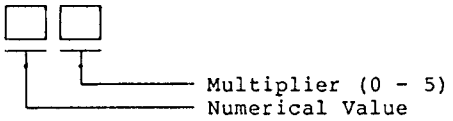
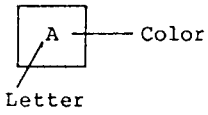


Fig. 5-9 Leadless Resistor Code

4. Leadless Capacitors

The capacitance value is indicated on the surface of the component, using body color and one letter, or one letter and one numeral.

(1) Identification for body color and one letter.

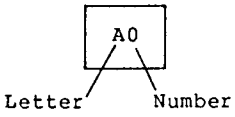


Body Color	Letter	Value	Body Color	Letter	Value
Red	A	1(PF)	Blue	A	100(PF)
	C	2		C	120
	E	3		E	150
	G	4		G	180
	J	5		J	220
	L	6		L	270
	N	7		N	330
	Q	8		Q	390
	S	9		S	470
Black	A	10(PF)		U	560
	C	12		W	680
	E	15		Y	820
	G	18	White	A	0.001(μF)
	J	22		E	0.0015
	L	27		J	0.0022
	N	33		L	0.0027
	Q	39		N	0.0033
	S	47		S	0.0047
	U	56		W	0.0068
	W	68	Green	A	0.01(μF)
	Y	82		E	0.015
				J	0.022
				N	0.033
				S	0.047
				U	0.056
				W	0.068
				Y	0.082
			Yellow	A	0.1(μF)

Example:

Color	Code	Value
Red	A	1PF
Black	A	10PF

(2) Identification for one letter and one numeral.



Letter /Number	Value	Letter /Number	Value
A0	1(PF)	A2	100(PF)
H0	2	C2	120
M0	3	E2	150
d0	4	G2	180
f0	5	J2	220
m0	6	L2	270
n0	7	N2	330
t0	8	Q2	390
y0	9	S2	470
		U2	560
A1	10(PF)	W2	680
C1	12	Y2	820
E1	15		
G1	18	A3	0.001(μF)
J1	22	E3	0.0015
L1	27	J3	0.0022
N1	33	N3	0.0033
Q1	39	S3	0.0047
S1	47	W3	0.0068
U1	56		
W1	68	A4	0.01(μF)
Y1	82	E4	0.015
		J4	0.022
		N4	0.033
		S4	0.047
		U4	0.056
		W4	0.068
		A5	0.1

Example:

Letter /Number	Value
A0	1PF
A1	10PF

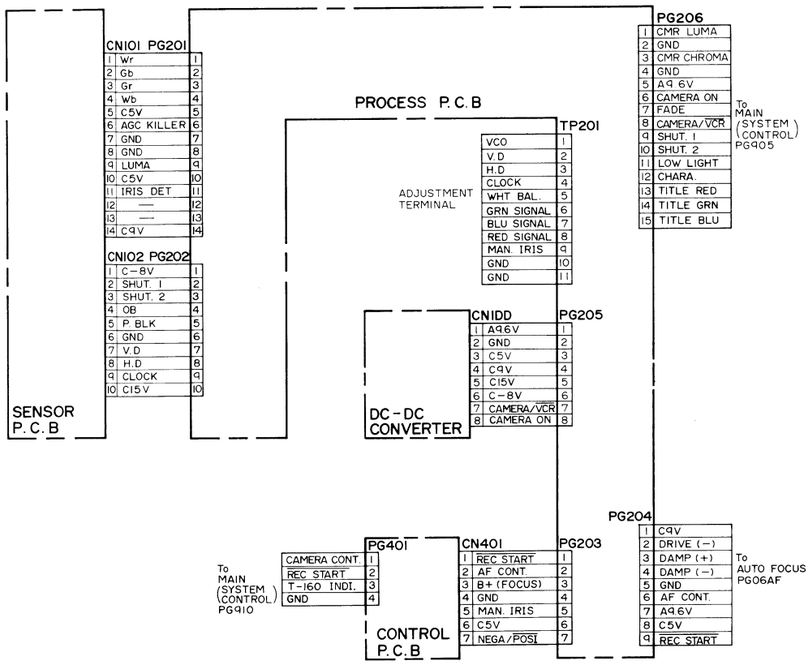
5. Leadless Jumper

The leadless jumper is indicated as shown below.

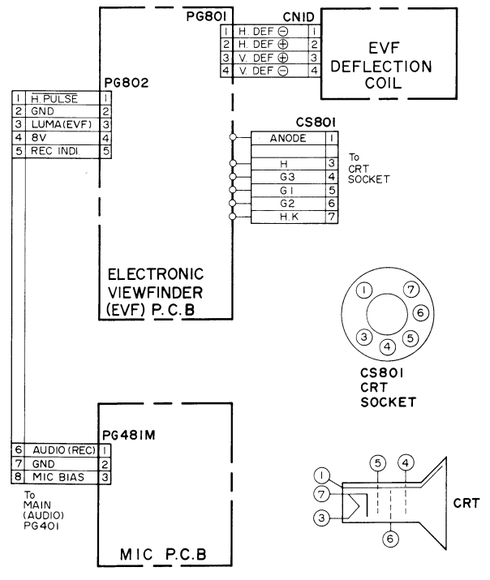
(1) (2) (3) (4)

CIRCUIT BOARD CONNECTION DIAGRAM
LEITERPLATTEN-ANSCHLUSSDIAGRAMM

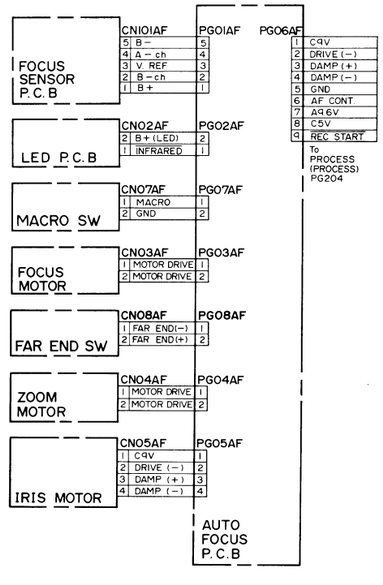
CAMERA
KAMERA



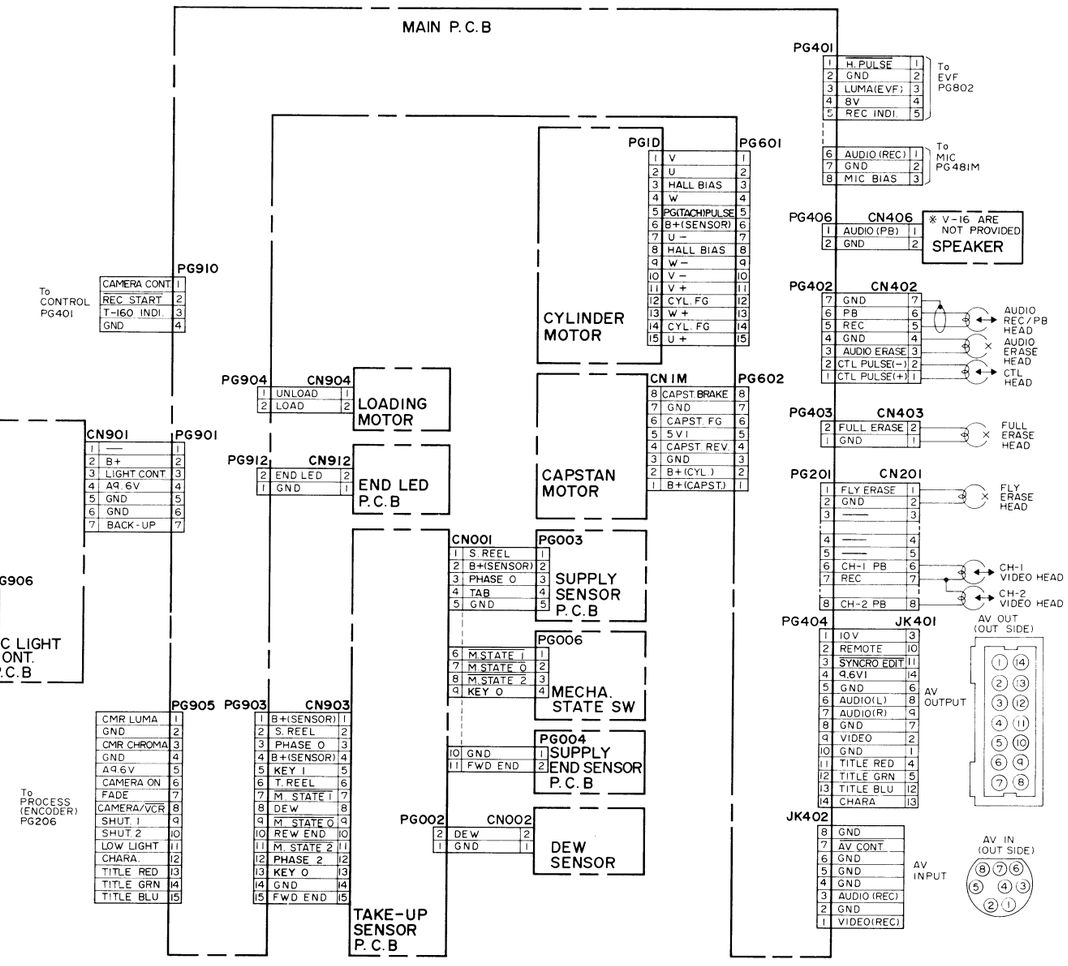
ELECTRONIC VIEWFINDER (EVF)
ELEKTRONISCHER SUCHER (EVF)



AUTO FOCUS
AUTOMATISCHE SCHARFEINSTELLUNG

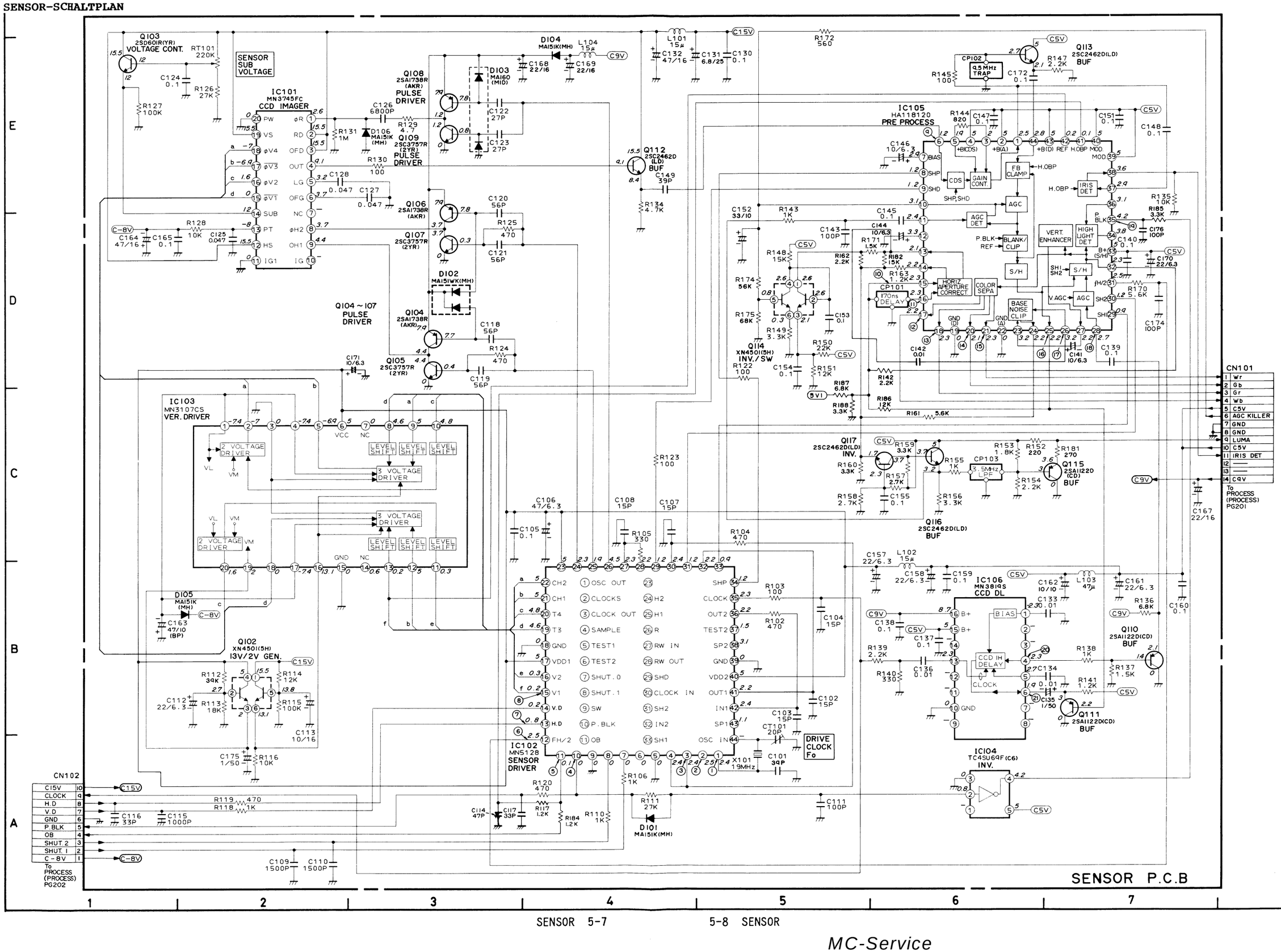


VTR
VIDEOREKORDER

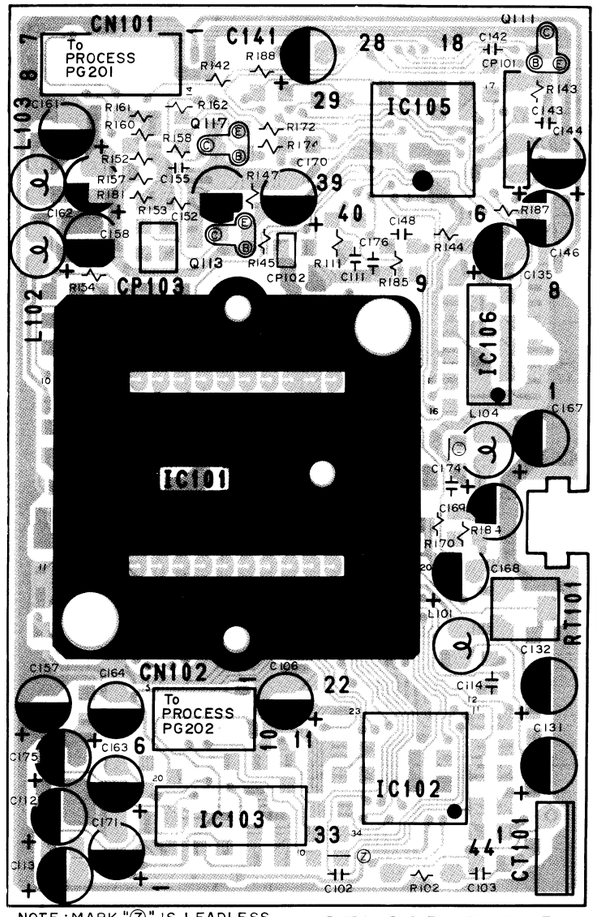


MC-Service

SENSOR SCHEMATIC
SENSOR-SCHALTPLAN

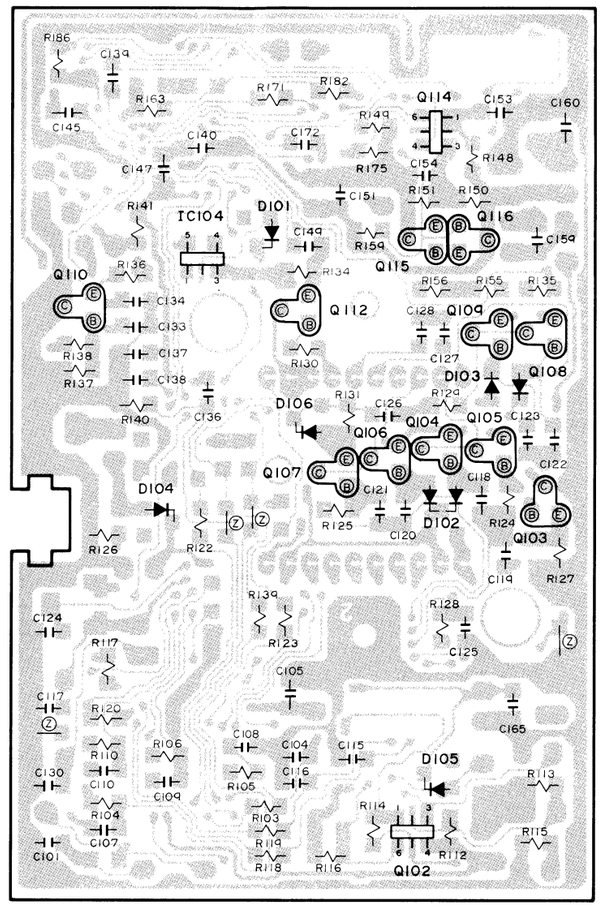


SENSOR CIRCUIT BOARD
SENSOR-LEITERPLATTE



NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

SENSOR P. C. B (COMPONENT SIDE)



NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

SENSOR P. C. B (SOLDER SIDE)

: Soldered side

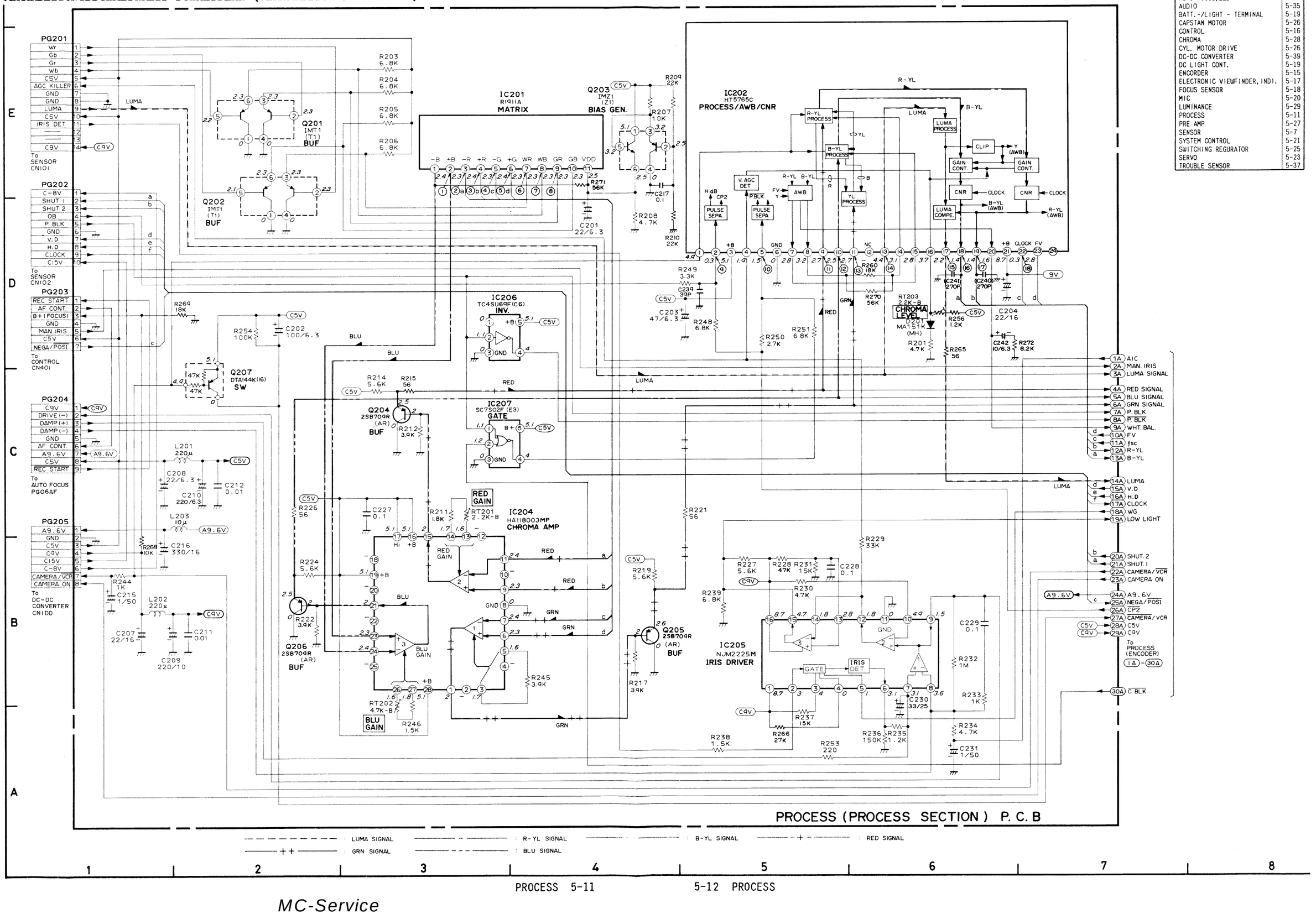
: Parts side

SCHEMATIC	PAGE	SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19	FOCUS SENSOR	5-18
AUDIO	5-35	MIC	5-20
BATT. -/LIGHT - TERMINAL	5-19	LUMINANCE	5-29
CAPSTAN MOTOR	5-26	PROCESS	5-11
CONTROL	5-16	PRE AMP	5-27
CHROMA	5-28	SENSOR	5-7
CYL. MOTOR DRIVE	5-26	SYSTEM CONTROL	5-21
DC-DC CONVERTER	5-39	SWITCHING REGURATOR	5-25
DC LIGHT CONT.	5-19	SERVO	5-23
ENCORDER	5-15	TROUBLE SENSOR	5-37
ELECTRONIC VIEWFINDER, INDI.	5-17		

1-A IC102-1 4.2Vp-p 1V/20.0nsec.cm COLOR CHART	2-A IC102-2 6.7Vp-p 2V/50.0nsec.cm COLOR CHART	3-A IC102-3 6.7Vp-p 2V/50.0nsec.cm COLOR CHART
4-A IC102-10 5.0Vp-p 1V/22.7μ sec.cm COLOR CHART	5-A IC102-11 5.0Vp-p 1V/22.7μ sec.cm COLOR CHART	6-A IC102-12 5.1Vp-p 1V/56.8μ sec.cm COLOR CHART
7-A IC102-13 5.2Vp-p 1V/22.7μ sec.cm COLOR CHART	8-A IC102-15 5.0Vp-p 1V/22.7μ sec.cm COLOR CHART	9-A IC105-6 450mVp-p 0.1V/22.7μ sec.cm COLOR CHART
10-A IC105-15 360mVp-p 0.1V/22.7μ sec.cm COLOR CHART	11-A IC105-16 450mVp-p 0.1V/22.7μ sec.cm COLOR CHART	12-A IC105-17 550mVp-p 0.1V/22.7μ sec.cm COLOR CHART
16-A IC105-25 550mVp-p 0.1V/22.7μ sec.cm COLOR CHART	17-A IC105-26 710mVp-p 0.2V/22.7μ sec.cm COLOR CHART	18-A IC105-28 710mVp-p 0.2V/22.7μ sec.cm COLOR CHART
19-A IC105-35 5.1Vp-p 1V/22.7μ sec.cm COLOR CHART	20-A IC106-4 1.1Vp-p 0.2V/22.7μ sec.cm COLOR CHART	21-A IC106-6 550mVp-p 0.1V/22.7μ sec.cm COLOR CHART

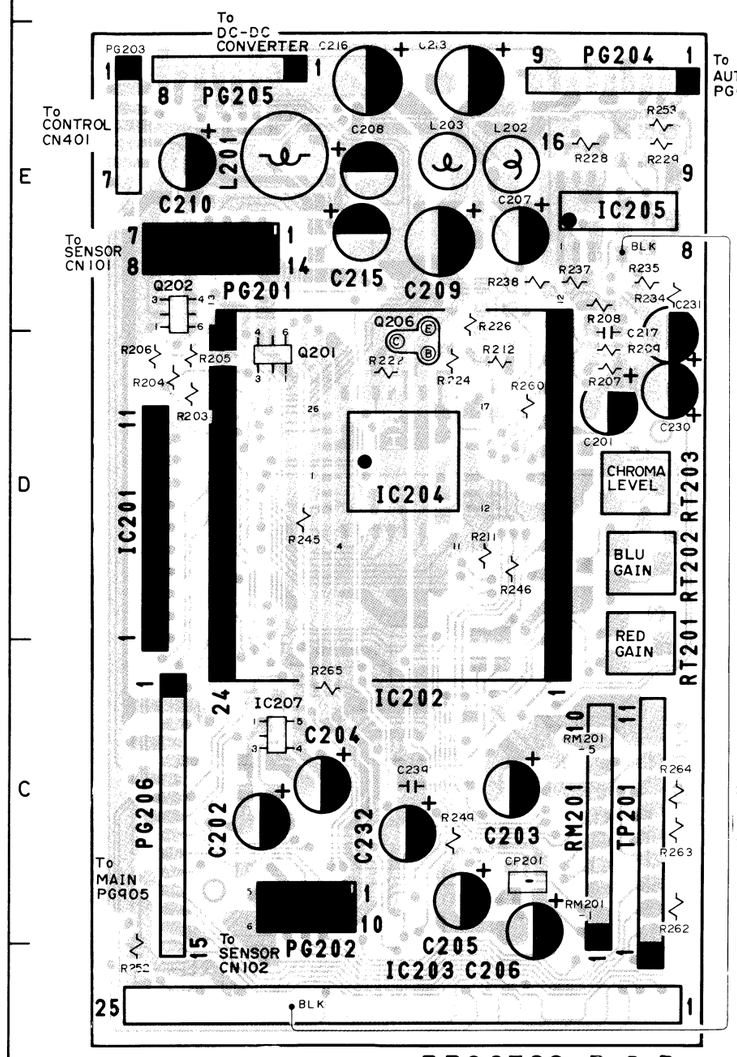
PROCESS (PROCESS SECTION) SCHEMATIC
VERARBEITUNGSSCHALTKREIS-SCHALTPLAN (VERARBEITUNGSABSCHNITT)

SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19
AUDIO	5-35
BATT. -/LIGHT - TERMINAL	5-19
CAPSTAN MOTOR	5-26
CONTROL	5-16
CHROMA	5-28
CYL. MOTOR DRIVE	5-26
DC-DC CONVERTER	5-39
DC LIGHT CONT.	5-19
ENCORDER	5-15
ELECTRONIC VIEWFINDER, INDI.	5-17
FOCUS SENSOR	5-18
MIC	5-20
LUMINANCE	5-29
PROCESS	5-11
PRE AMP	5-27
SENSOR	5-7
SYSTEM CONTROL	5-21
SWITCHING REGURATOR	5-25
SERVO	5-23
TROUBLE SENSOR	5-37

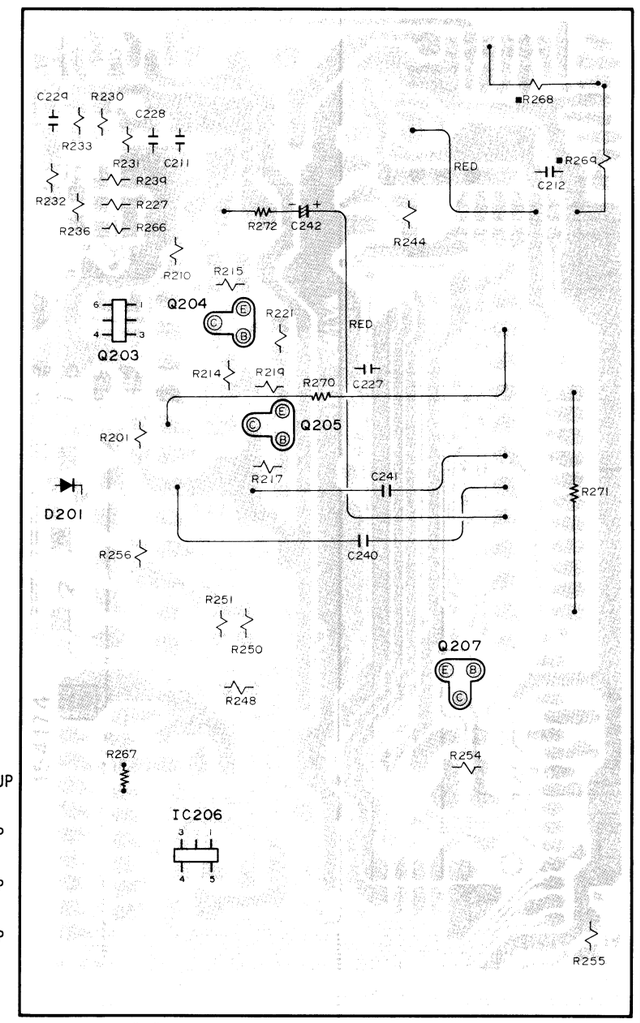


PROCESS (PROCESS SECTION) P. C. B

PROCESS CIRCUIT BOARD
VERARBEITUNGSSCHALTKREIS-LEITERPLATTE



PROCESS P.C.B
(COMPONENT SIDE)



NOTE: MARK "■" IS DISCRETE COMPONENT.

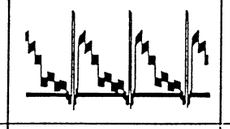
PROCESS P.C.B
(SOLDER SIDE)

: Soldered side

: Parts side

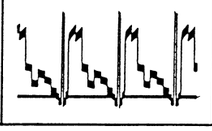
: Soldered side

1-A IC201-2 570mVp-p 0.1V/22.7μ sec.cm COLOR CHART

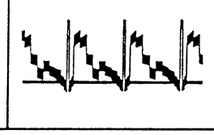


2-A IC201-3 570mVp-p 0.1V/22.7μ sec.cm COLOR CHART

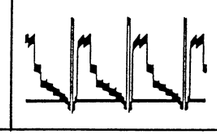
3-A IC201-4 570mVp-p 0.1V/22.7μ sec.cm COLOR CHART



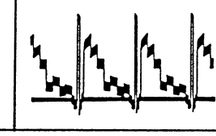
4-A IC201-5 570mVp-p 0.1V/22.7μ sec.cm COLOR CHART



5-A IC201-6 550mVp-p 0.1V/22.7μ sec.cm COLOR CHART



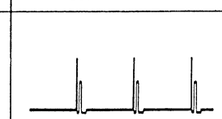
6-A IC201-7 380mVp-p 0.1V/22.7μ sec.cm COLOR CHART



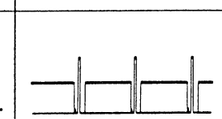
7-A IC201-8 540mVp-p 0.1V/22.7μ sec.cm COLOR CHART

8-A IC201-9 430mVp-p 0.1V/22.7μ sec.cm COLOR CHART

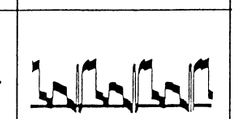
9-A IC202-2 3.1Vp-p 1V/20.0μ sec.cm COLOR CHART



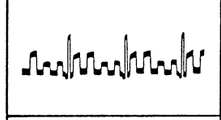
10-A IC202-5 3.2Vp-p 1V/20.0μ sec.cm COLOR CHART



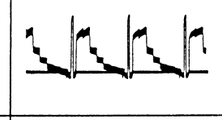
11-A IC202-9 250mVp-p 50mV/20.0μ sec.cm COLOR CHART



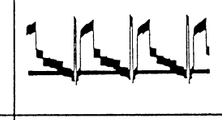
12-A IC202-10 320mVp-p 50mV/20.0μ sec.cm COLOR CHART



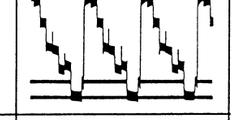
13-A IC202-11 350mVp-p 0.1V/20.0μ sec.cm COLOR CHART



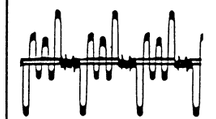
14-A IC202-13 170mVp-p 50mV/20.0μ sec.cm COLOR CHART



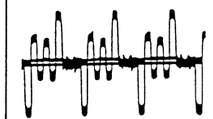
15-A IC202-17 600mVp-p 0.1V/20.0μ sec.cm COLOR CHART



16-A IC202-18 500mVp-p 0.1V/20.0μ sec.cm COLOR CHART

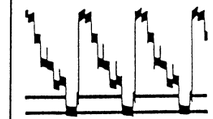


17-A IC202-19 540mVp-p 0.1V/20.0μ sec.cm COLOR CHART

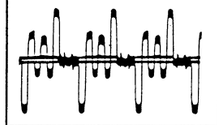


18-A IC202-22 430mVp-p 0.1V/100nsec.cm COLOR CHART

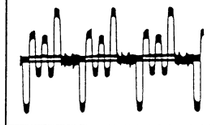
19-A IC203-4 580mVp-p 0.1V/20.0μ sec.cm COLOR CHART



20-A IC203-5 450mVp-p 0.1V/20.0μ sec.cm COLOR CHART



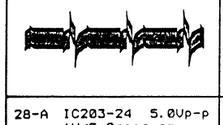
21-A IC203-6 470mVp-p 0.1V/20.0μ sec.cm COLOR CHART



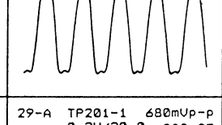
22-A IC203-9 970mVp-p 0.2V/20.0μ sec.cm COLOR CHART

23-A IC203-11 720mVp-p 0.2V/20.0μ sec.cm COLOR CHART

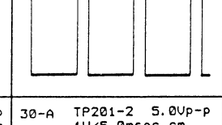
24-A IC203-17 640mVp-p 0.2V/20.0μ sec.cm COLOR CHART



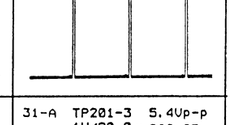
25-A IC203-21 4.7Vp-p 1V/50.0nsec.cm COLOR CHART



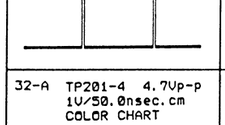
26-A IC203-22 5.1Vp-p 1V/20.0μ sec.cm COLOR CHART



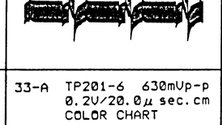
27-A IC203-23 5.2Vp-p 1V/20.0μ sec.cm COLOR CHART



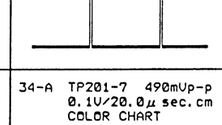
28-A IC203-24 5.0Vp-p 1V/5.0msec.cm COLOR CHART



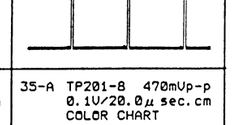
29-A TP201-1 680mVp-p 0.2V/20.0μ sec.cm COLOR CHART



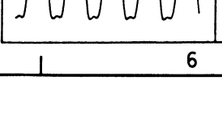
30-A TP201-2 5.0Vp-p 1V/5.0msec.cm COLOR CHART



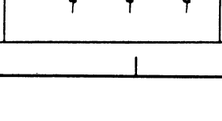
31-A TP201-3 5.4Vp-p 1V/20.0μ sec.cm COLOR CHART



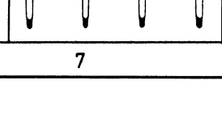
32-A TP201-4 4.7Vp-p 1V/50.0nsec.cm COLOR CHART



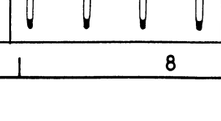
33-A TP201-6 630mVp-p 0.2V/20.0μ sec.cm COLOR CHART



34-A TP201-7 490mVp-p 0.1V/20.0μ sec.cm COLOR CHART

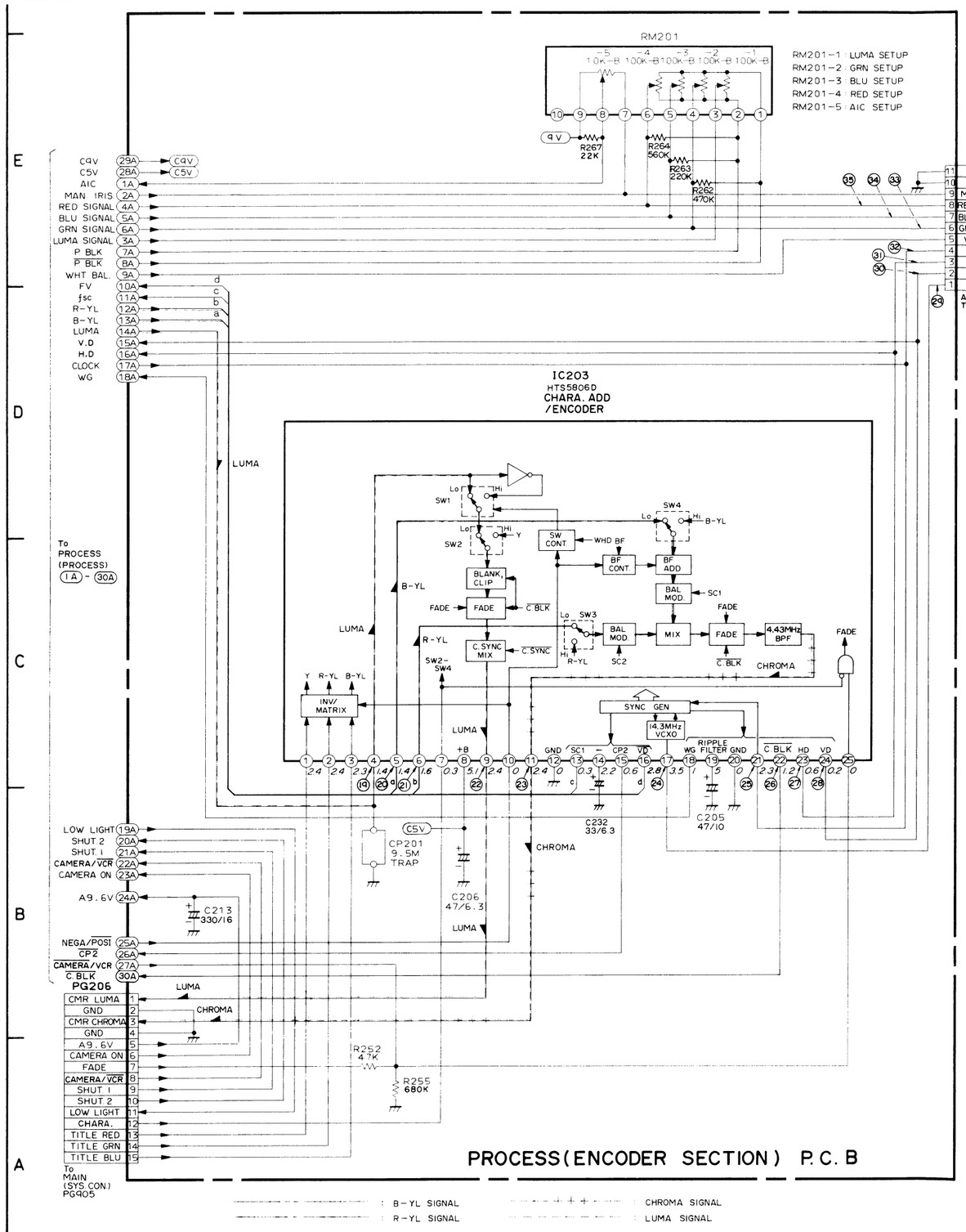


35-A TP201-8 470mVp-p 0.1V/20.0μ sec.cm COLOR CHART



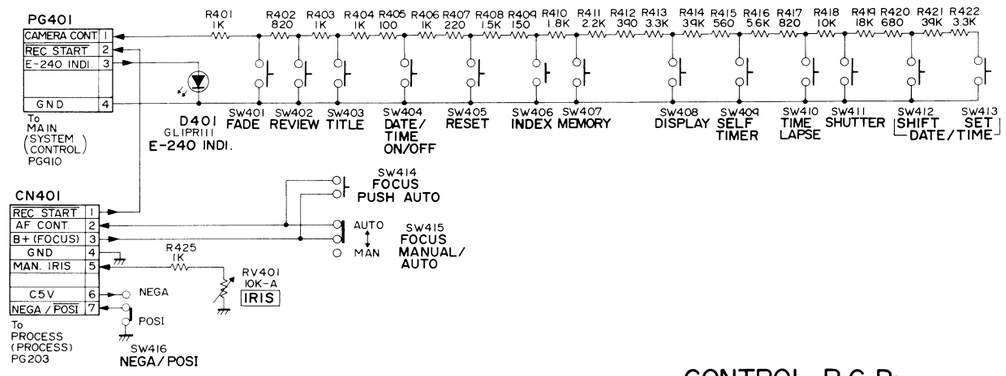
MC-Service

PROCESS (ENCODER SECTION) SCHEMATIC
VERARBEITUNGSSCHALTKREIS-SCHALTPLAN (KODIERERABSCHNITT)



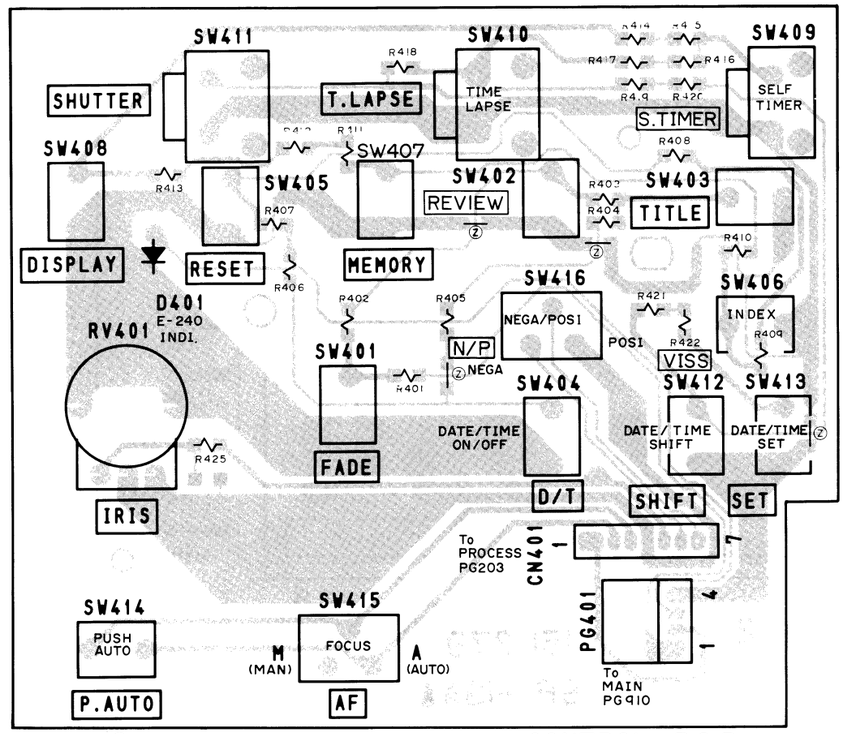
PROCESS (ENCODER SECTION) P.C.B

CONTROL SCHEMATIC
STEUERUNGS-SCHALTPLAN



CONTROL P.C.B

CONTROL CIRCUIT BOARD
STEUERUNGS-LEITERPLATTE



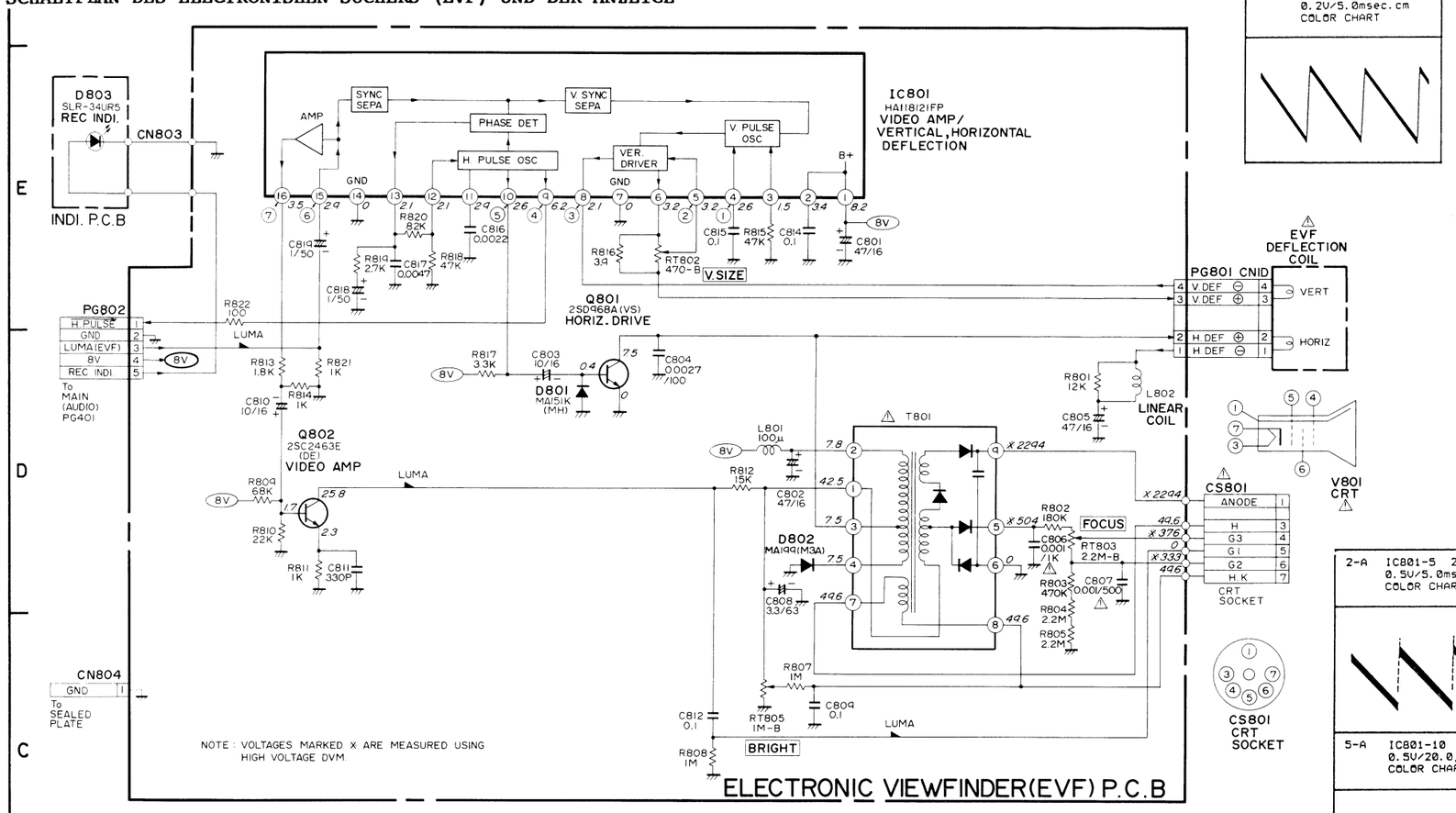
NOTE: MARK "②" IS LEADLESS (CHIP) JUMPER.

CONTROL P.C.B

SCHEMATIC	PAGE	SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19	FOCUS SENSOR	5-18
AUDIO	5-35	MIC	5-20
BATT.-/LIGHT - TERMINAL	5-19	LUMINANCE	5-29
CAPSTAN MOTOR	5-26	PROCESS	5-11
CONTROL	5-16	PRE AMP	5-27
CHROMA	5-28	SENSOR	5-7
CYL. MOTOR DRIVE	5-26	SYSTEM CONTROL	5-21
DC-DC CONVERTER	5-39	SWITCHING REGURATOR	5-25
DC LIGHT CONT.	5-19	SERVO	5-23
ENCORDER	5-15	TROUBLE SENSOR	5-37
ELECTRONIC VIEWFINDER, INDI.	5-17		

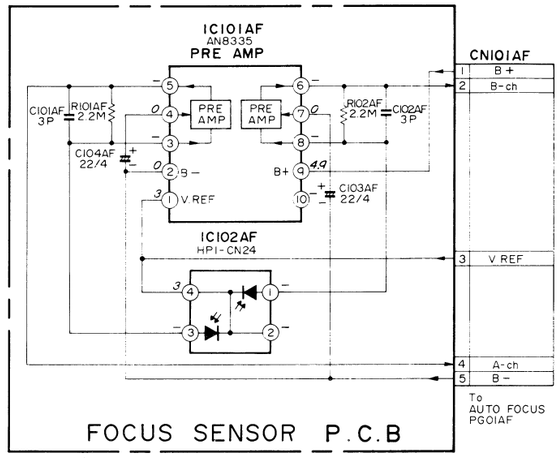
MC-Service

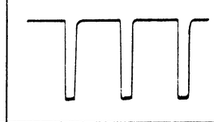
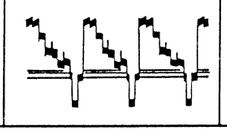
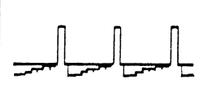
ELECTRONIC VIEWFINDER (EVF), INDI. SCHEMATIC
SCHALTPLAN DES ELECTRONISHEN SUCHERS (EVF) UND DER ANZEIGE



1-A IC801-4 900mVp-p
0.2V/5.0msec. cm
COLOR CHART

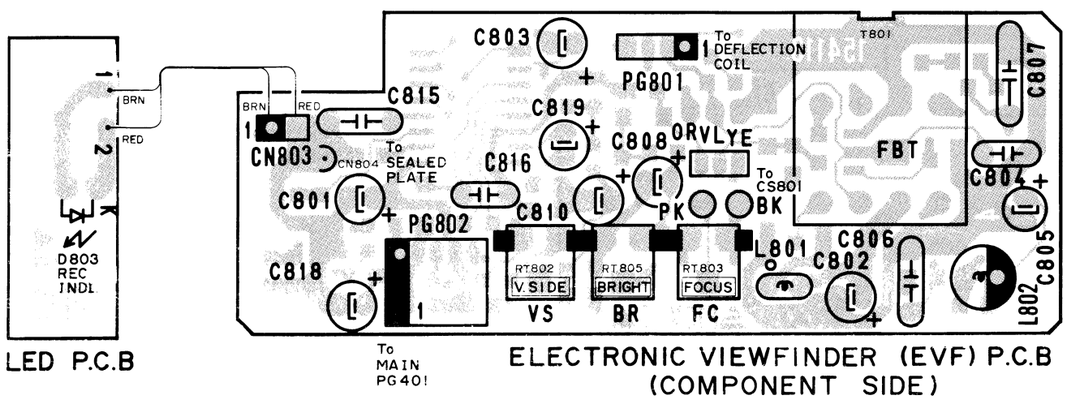
FOCUS SENSOR SCHEMATIC (Reference)
FOKUSSENSOR-SCHALTPLAN (Referenz)

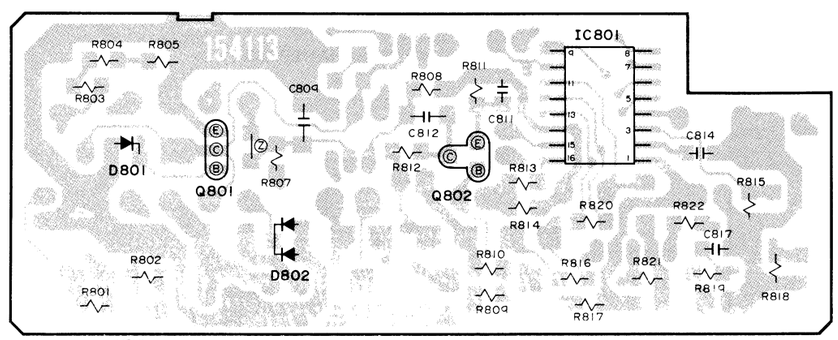


2-A IC801-5 2.2Vp-p 0.5V/5.0msec. cm COLOR CHART	3-A IC801-8 2.2Vp-p 0.5V/5.0msec. cm COLOR CHART	4-A IC801-9 4.5Vp-p 1V/20.0μ sec. cm COLOR CHART
		
5-A IC801-10 1.7Vp-p 0.5V/20.0μ sec. cm COLOR CHART	6-A IC801-15 1Vp-p 0.2V/20.0μ sec. cm COLOR CHART	7-A IC801-16 5.7Vp-p 2V/20.0μ sec. cm COLOR CHART
		

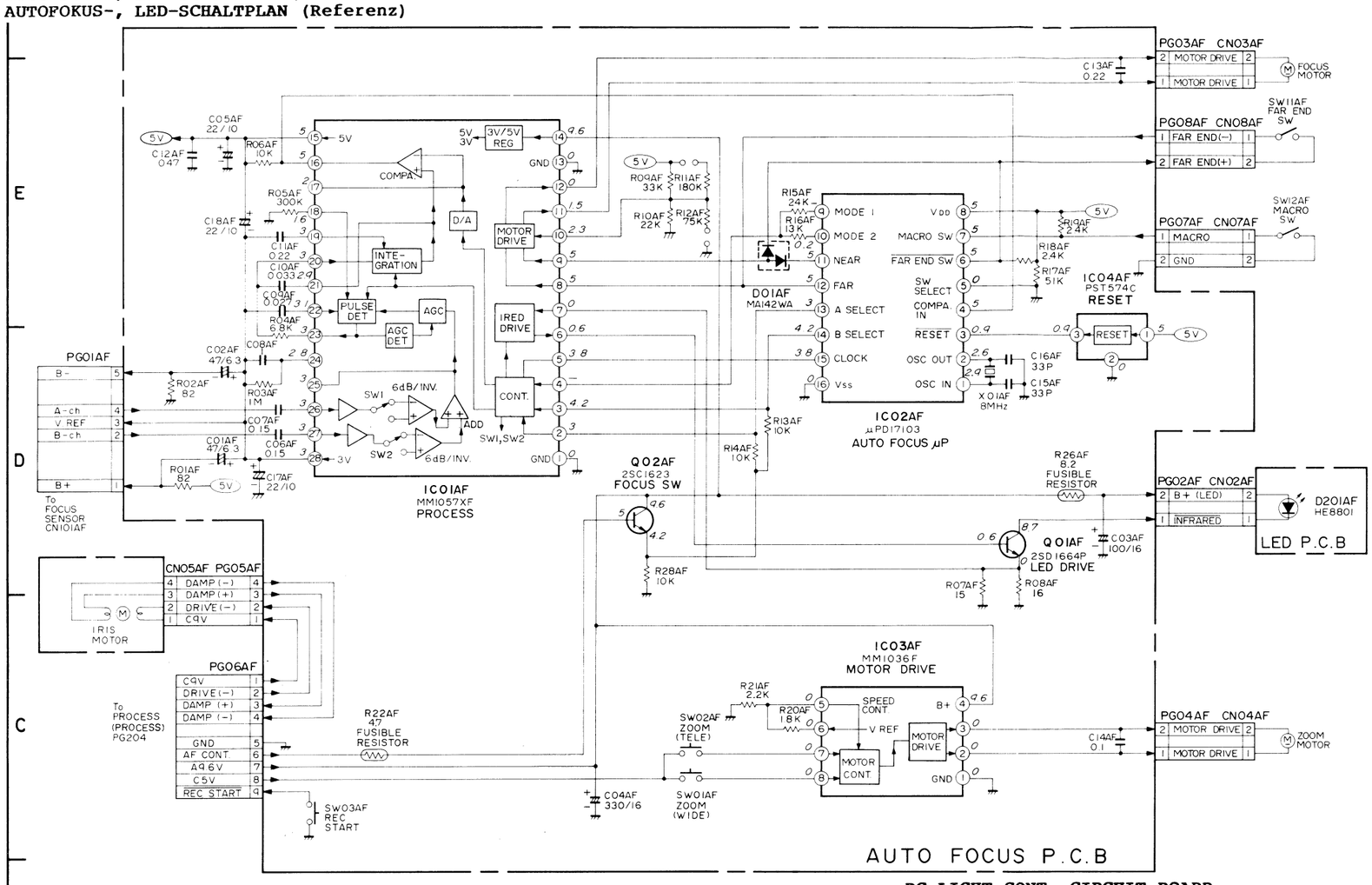
SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19
AUDIO	5-35
BATT.-/LIGHT - TERMINAL	5-19
CAPSTAN MOTOR	5-26
CONTROL	5-15
CHROMA	5-28
CYL. MOTOR DRIVE	5-26
DC-DC CONVERTER	5-39
DC LIGHT CONT.	5-19
ENCORDER	5-15
ELECTRONIC VIEWFINDER, INDI.	5-17
FOCUS SENSOR	5-18
MIC	5-20
LUMINANCE	5-29
PROCESS	5-11
PRE AMP	5-27
SENSOR	5-7
SYSTEM CONTROL	5-21
SWITCHING REGURATOR	5-25
SERVO	5-23
TROUBLE SENSOR	5-37

ELECTRONIC VIEWFINDER (EVF), INDI. CIRCUIT BOARD
LEITERPLATTE DES ELECTRONISHEN SUCHERS (EVF) UND DER ANZEIGE

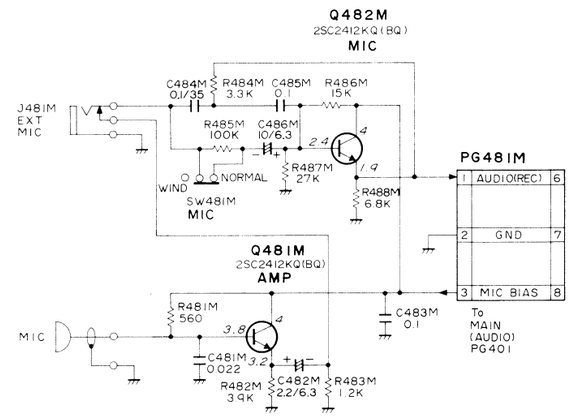




AUTO FOCUS, LED SCHEMATIC (Reference)
AUTOFOKUS-, LED-SCHALTPLAN (Referenz)

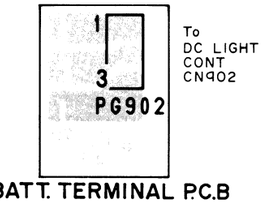


MIC SCHEMATIC (Reference)
MIKROFON-SCHALTPLAN (Referenz)

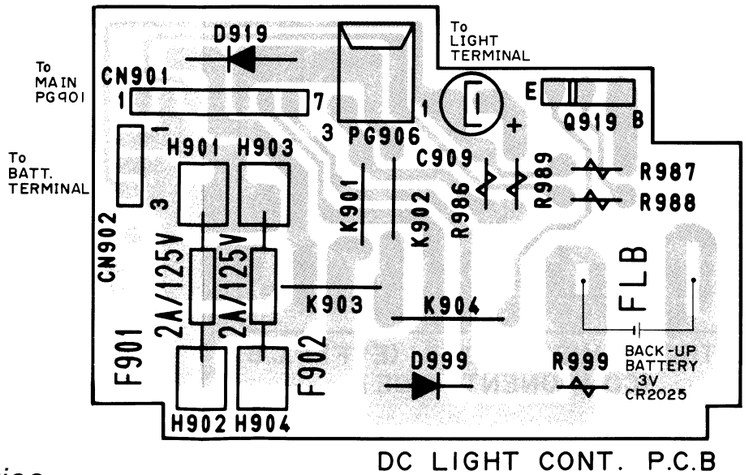


SCHEMATIC	PAGE	SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19	FOCUS SENSOR	5-18
AUDIO	5-35	MIC	5-20
BATT. -/LIGHT - TERMINAL	5-19	LUMINANCE	5-29
CAPSTAN MOTOR	5-26	PROCESS	5-11
CONTROL	5-16	PRE AMP	5-27
CHROMA	5-28	SENSOR	5-7
CYL. MOTOR DRIVE	5-26	SYSTEM CONTROL	5-21
DC-DC CONVERTER	5-39	SWITCHING REGURATOR	5-25
DC LIGHT CONT.	5-19	SERVO	5-23
ENCORDER	5-15	TROUBLE SENSOR	5-37
ELECTRONIC VIEWFINDER, INDI.	5-17		

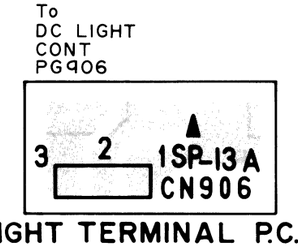
BATT. TERMINAL CIRCUIT BOARD
AKKUKLEMMEN-LEITERPLATTE



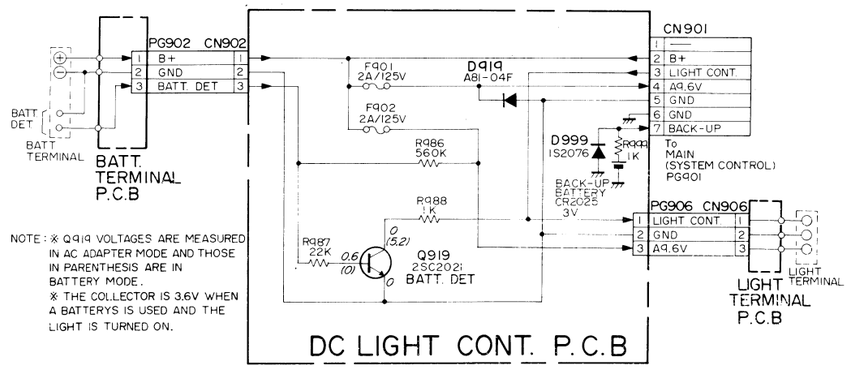
DC LIGHT CONT. CIRCUIT BOARD
GLEICHSTROMLEUCHTEN-LEITERPLATTE



LIGHT TERMINAL CIRCUIT BOARD
LICHTKLEMMEN-LEITERPLATTE

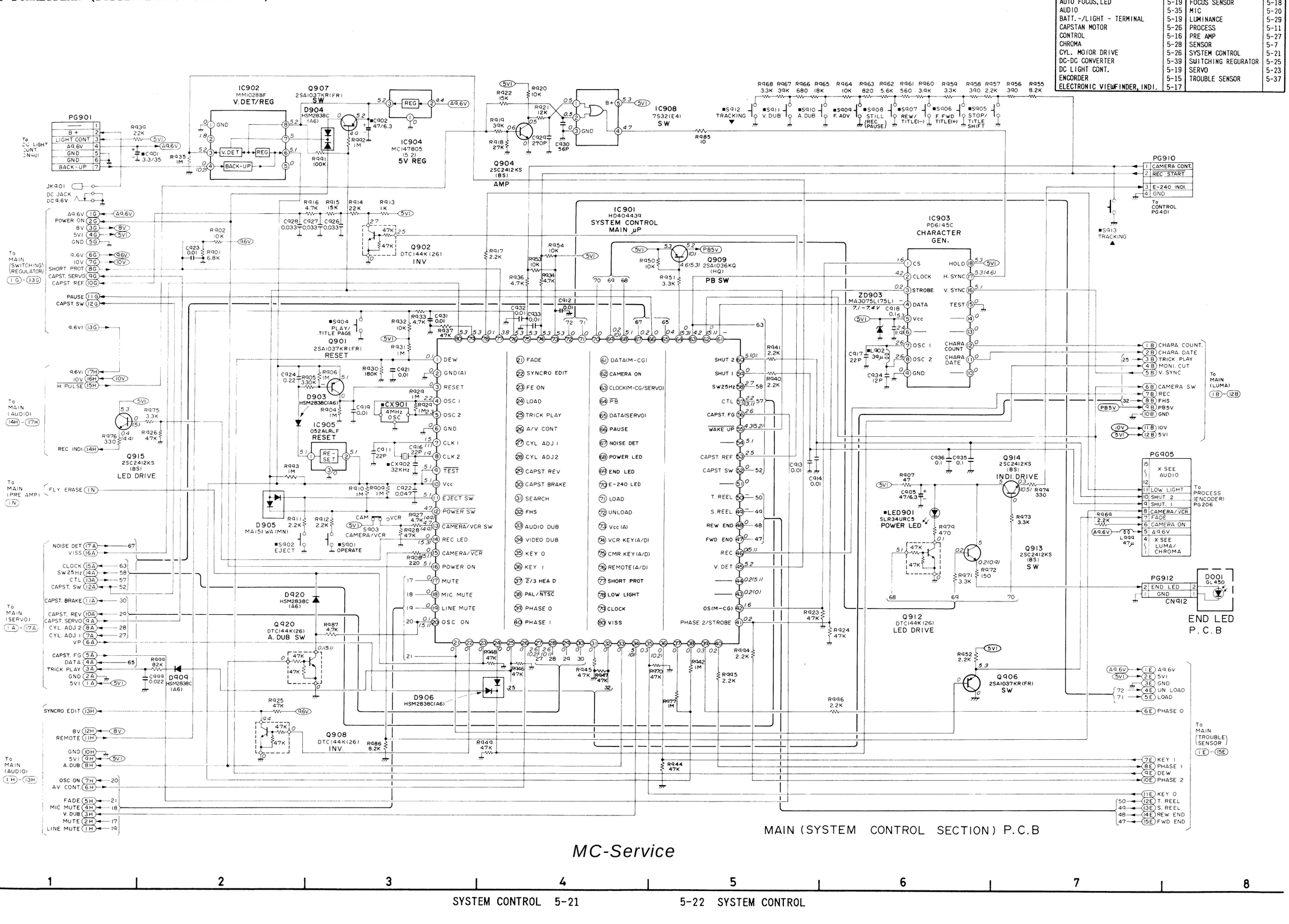


BATT. TERMINAL, DC LIGHT CONT, LIGHT TERMINAL SCHEMATIC
AKKUKLEMMEN-, GLEICHSTROMLEUCHTEN-, LICHTKLEMMEN-SCHALTPLAN

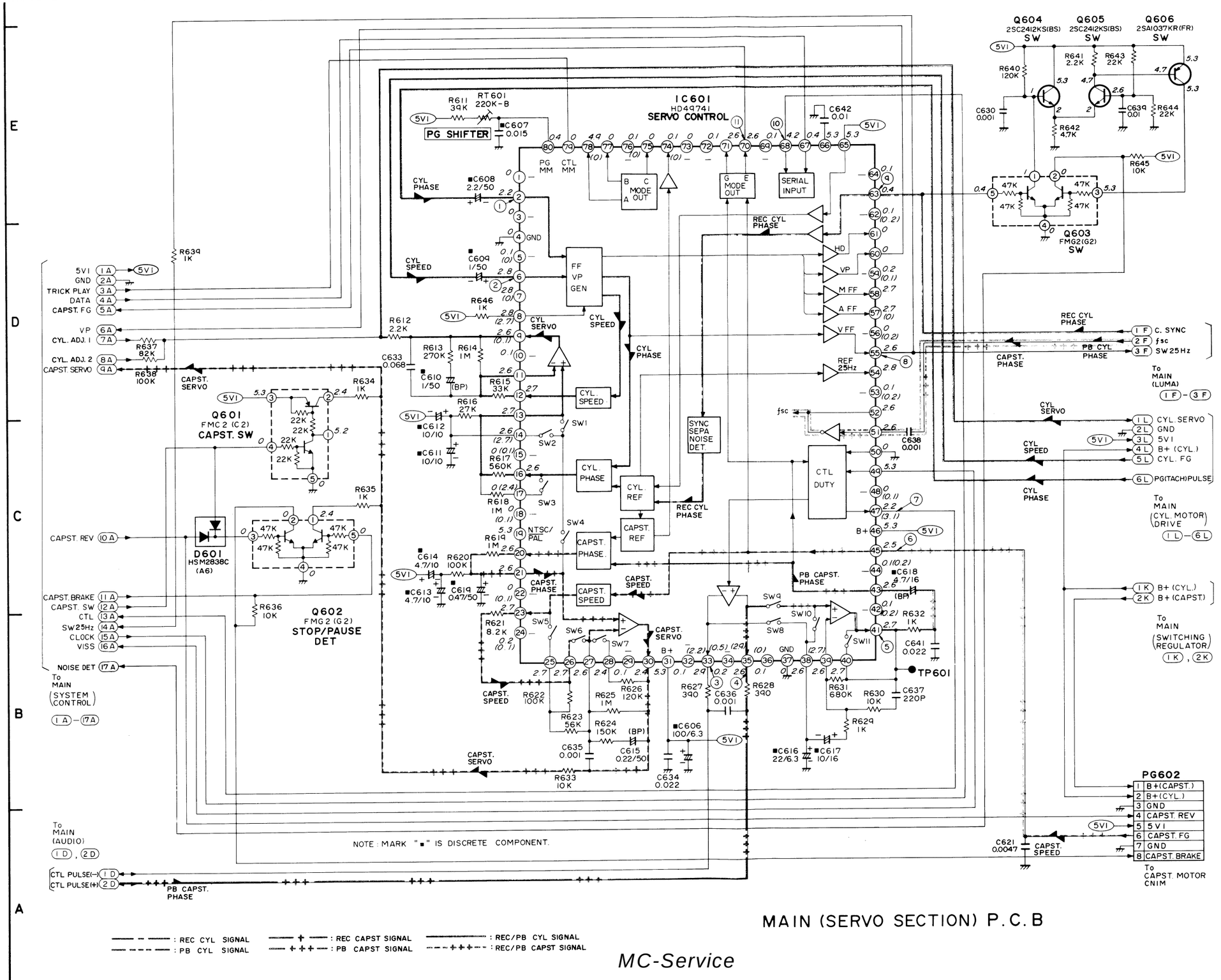


MAIN (SYSTEM CONTROL SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (SYSTEMREGELUNGSABSCHNITT)

SCHEMATIC	PAGE	SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19	FOCUS SENSOR	5-18
AUDIO	5-35	MIC	5-20
BATT. -/LIGHT - TERMINAL	5-19	LUMINANCE	5-29
CAPSTAN MOTOR	5-26	PROCESS	5-11
CONTROL	5-16	PRE AMP	5-27
CHROMA	5-28	SENSOR	5-7
CYL. MOTOR DRIVE	5-26	SYSTEM CONTROL	5-21
DC-DC CONVERTER	5-39	SWITCHING REGURATOR	5-25
DC LIGHT CONT.	5-19	SERVO	5-23
ENCORDER	5-15	TROUBLE SENSOR	5-37
ELECTRONIC VIEWFINDER, INDI.	5-17		



MAIN (SERVO SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (SERVOABSCHNITT)



MAIN (SERVO SECTION) P.C.B

1-A IC601-2 2.4Vp-p 0.5V/10.0msec.cm REC/PLAY

2-A IC601-6 3.7Vp-p 1V/1.0msec.cm REC/PLAY

3-A IC601-33 4.4Vp-p 1V/10.0msec.cm REC

4-A IC601-35 2.7Vp-p 0.5V/10.0msec.cm REC

5-B IC601-41 2.0Vp-p 0.5V/10.0msec.cm PLAY

6-A IC601-45 5.0Vp-p 1V/100μsec.cm REC/PLAY

7-A IC601-47 5.3Vp-p 1V/10.0msec.cm REC

7-B IC601-47 5.3Vp-p 1V/10.0msec.cm PLAY

8-A IC601-55 5.3Vp-p 1V/10.0msec.cm REC/PLAY

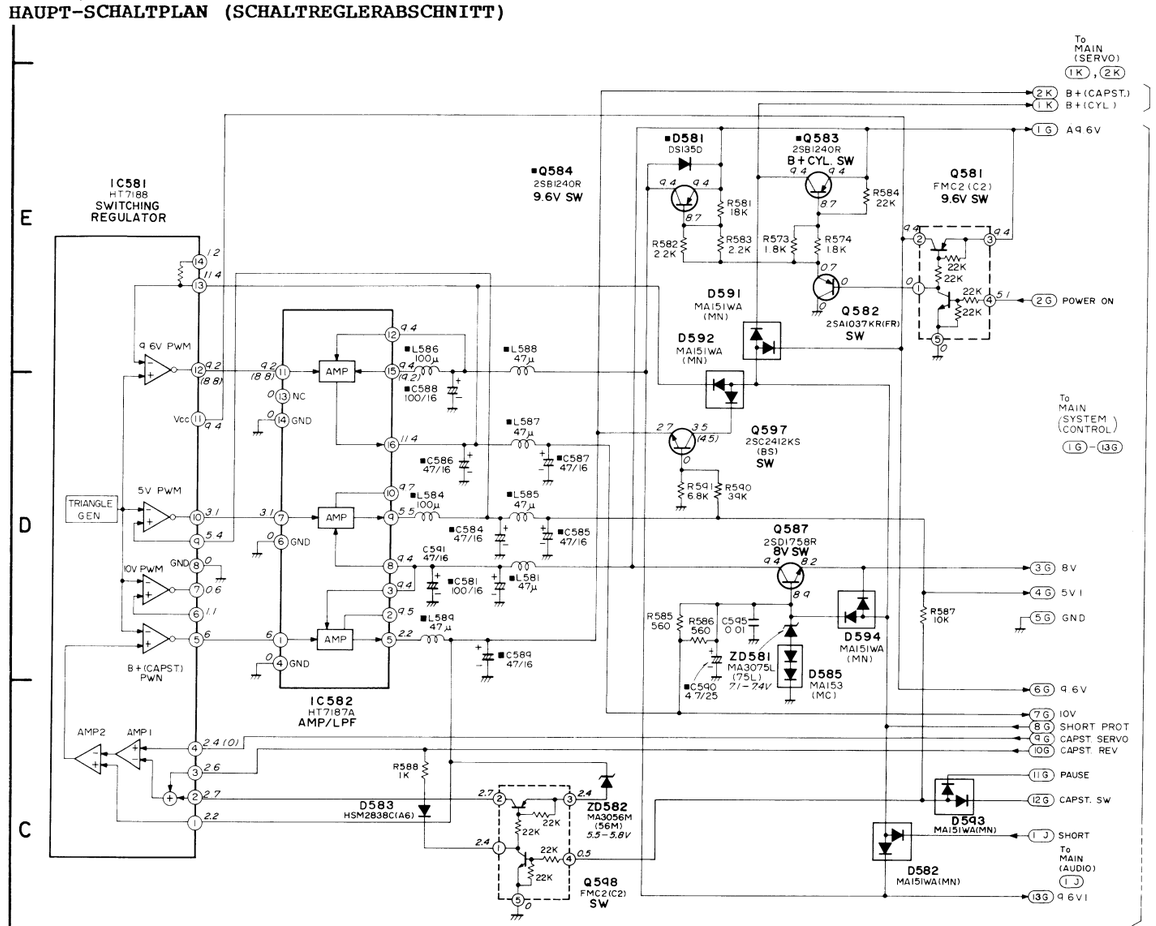
9-A IC601-63 4.8Vp-p 1V/20.0μsec.cm REC/PLAY

10-A IC601-68 5.0Vp-p 1V/5.0msec.cm REC/PLAY

11-A IC601-70 5.2Vp-p 1V/100μsec.cm REC/PLAY

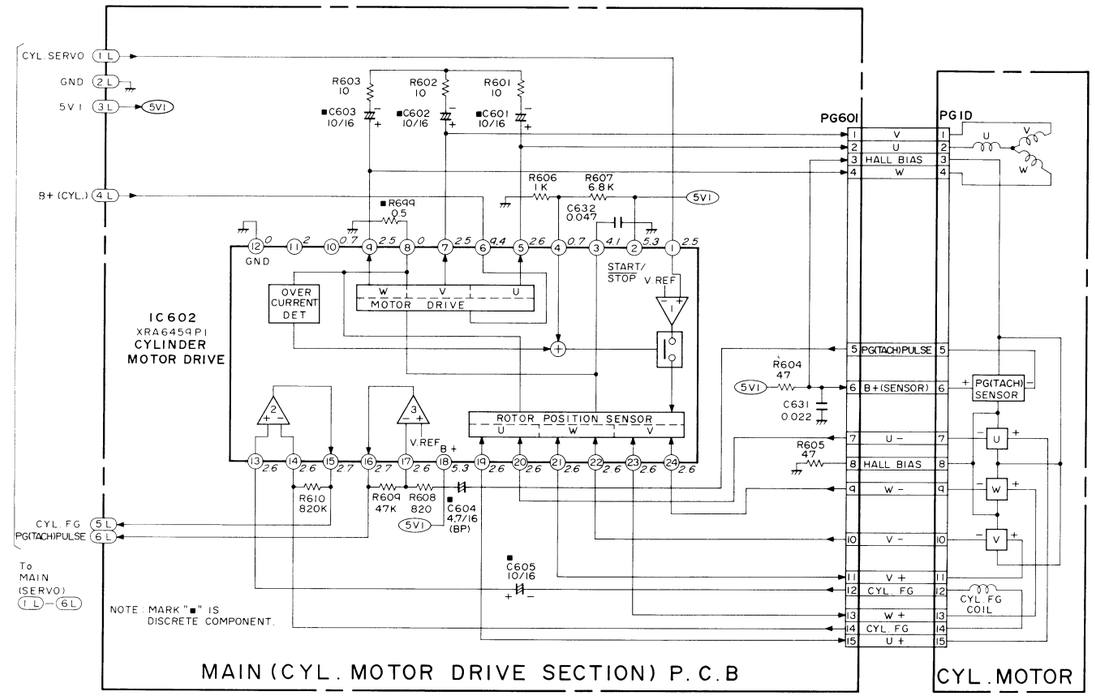
12-B TP603 2.0Vp-p 0.5V/10.0msec.cm PLAY

MAIN (SWITCHING REGULATOR SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (SCHALTREGLERABSCHNITT)

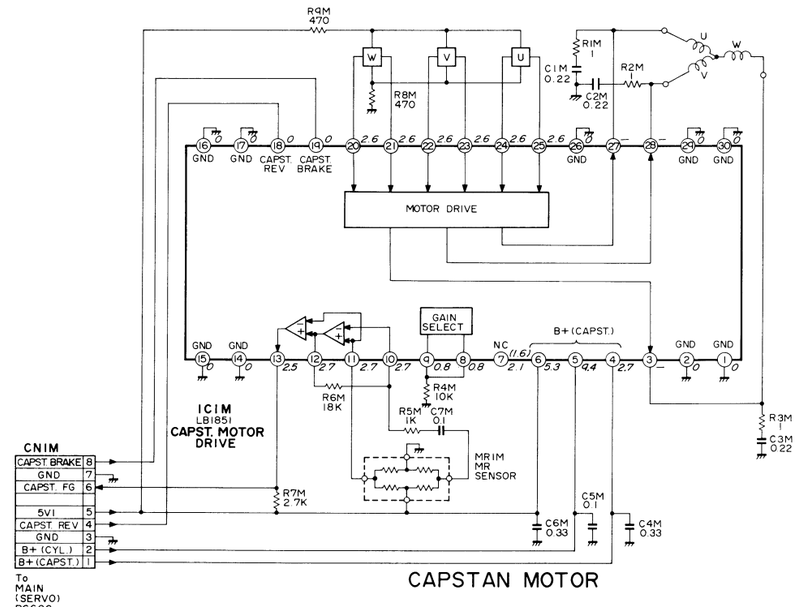


MAIN (SWITCHING REGULATOR SECTION) P.C.B

MAIN (CYL. MOTOR DRIVE SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (KOPFTROMMELMOTOR-TREIBERABSCHNITT)



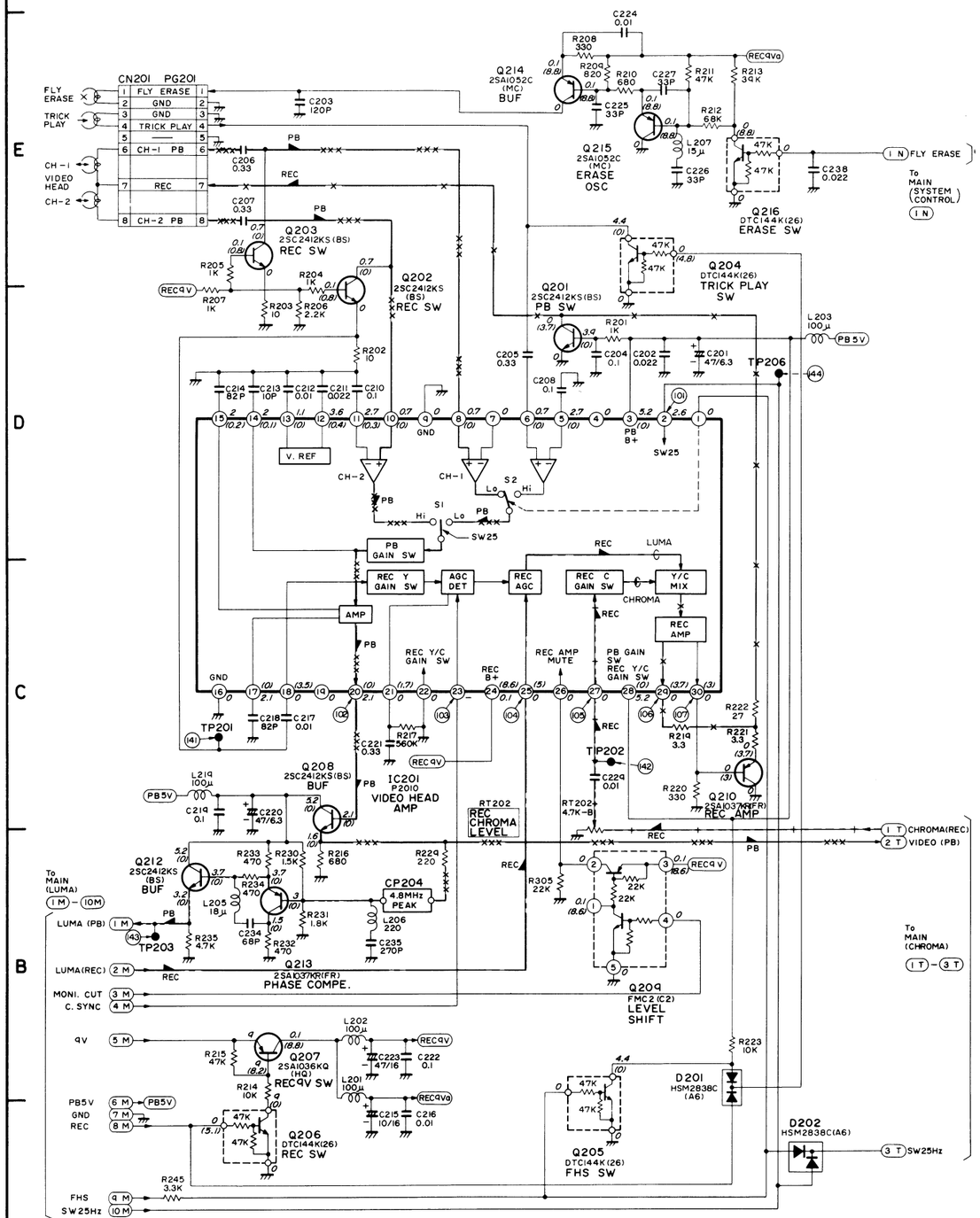
CAPSTAN MOTOR SCHEMATIC (Reference)
CAPSTANMOTOR-SCHALTPLAN (Referenz)



SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19
AUDIO	5-35
BATT.-/LIGHT - TERMINAL	5-19
CAPSTAN MOTOR	5-26
CONTROL	5-16
CHROMA	5-28
CYL. MOTOR DRIVE	5-26
DC-DC CONVERTER	5-39
DC LIGHT CONT.	5-19
ENCORDER	5-15
ELECTRONIC VIEWFINDER, INDI.	5-17
FOCUS SENSOR	5-18
MIC	5-20
LUMINANCE	5-29
PROCESS	5-11
PRE AMP	5-27
SENSOR	5-7
SYSTEM CONTROL	5-21
SWITCHING REGURATOR	5-25
SERVO	5-23
TROUBLE SENSOR	5-37

MC-Service

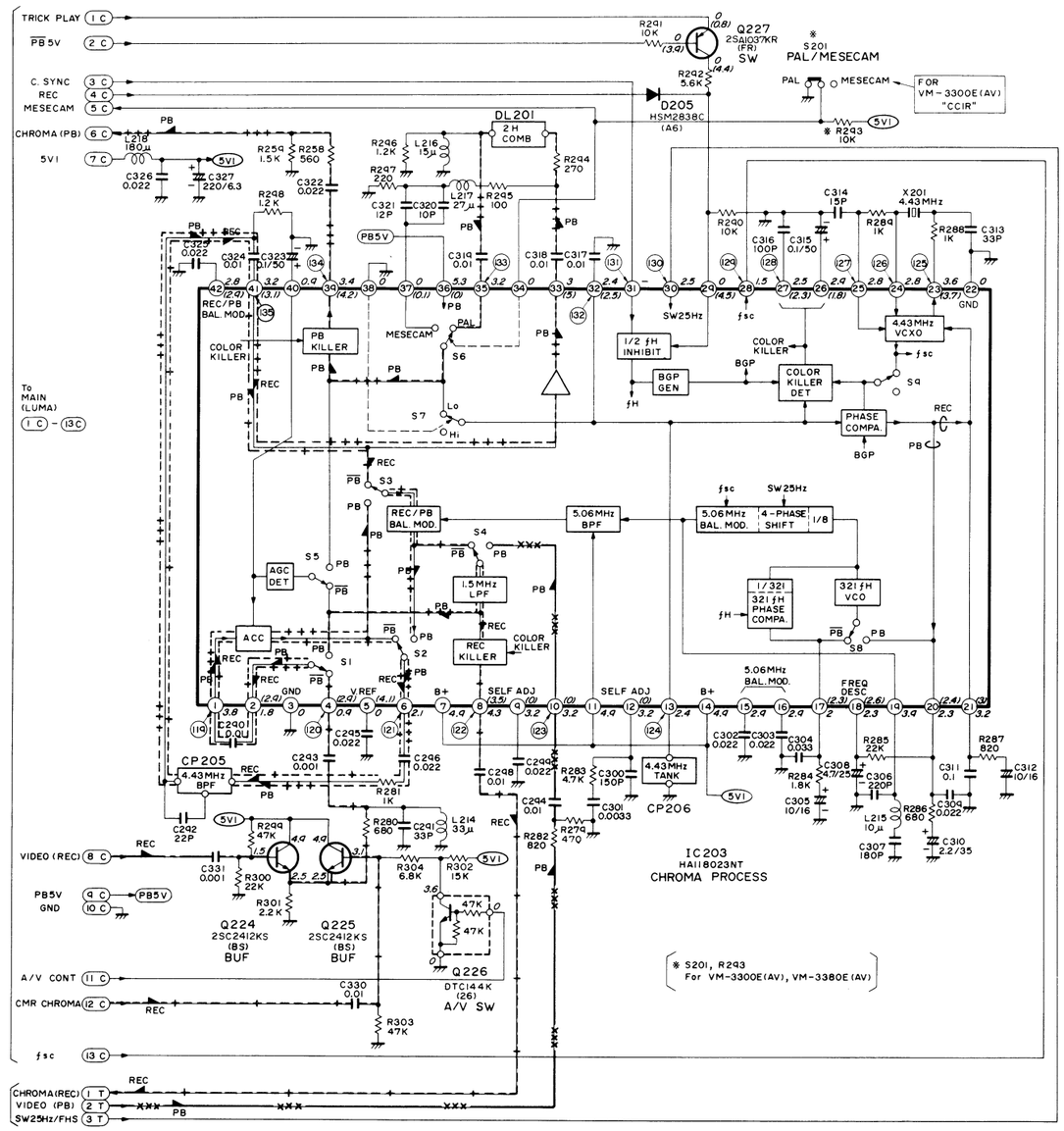
MAIN (PRE AMP SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (VORVERSTÄRKERABSCHNITT)



MAIN (PRE AMP SECTION) P.C.B

——— – ———: REC LUMA SIGNAL ——— + ———: REC CHROMA SIGNAL ——— x ———: REC VIDEO SIGNAL
——— – – – ———: PB LUMA SIGNAL ——— +++ ———: PB CHROMA SIGNAL ———xxx———: PB VIDEO SIGNAL

MAIN (CHROMA SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (CHROMINANZABSCHNITT)



MAIN (CHROMA SECTION) P.C.B

——— – ———: REC LUMA SIGNAL ——— + ———: REC CHROMA SIGNAL ——— x ———: REC VIDEO SIGNAL
——— – – – ———: PB LUMA SIGNAL ——— +++ ———: PB CHROMA SIGNAL ———xxx———: PB VIDEO SIGNAL

SCHEMATIC	PAGE	SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19	FOCUS SENSOR	5-18
AUDIO	5-35	MIC	5-20
BATT. -/LIGHT - TERMINAL	5-19	LUMINANCE	5-29
CAPSTAN MOTOR	5-26	PROCESS	5-11
CONTROL	5-16	PRE AMP	5-27
CHROMA	5-28	SENSOR	5-7
CYL. MOTOR DRIVE	5-26	SYSTEM CONTROL	5-21
DC-DC CONVERTER	5-39	SWITCHING REGURATOR	5-25
DC LIGHT CONT.	5-19	SERVO	5-23
ENCORDER	5-15	TROUBLE SENSOR	5-37
ELECTRONIC VIEWFINDER, INDI.	5-17		

MC-Service

MAIN (LUMINANCE) SCHEMATIC
HAUPT-SCHALTPLAN (LUMINANZABSCHNITT)

1-A IC201-2 5.0Vp-p
1V/5.0msec.cm
REC/PLAY

2-B IC201-20 530mVp-p
0.2V/5.0msec.cm
PLAY

3-A IC201-23 3.9Vp-p
1V/20.0μ sec.cm
REC/PLAY

4-A IC201-25 980mVp-p
0.5V/5.0msec.cm
REC

5-A IC201-27 110mVp-p
50mV/5.0msec.cm
REC

6-A IC201-29 3.7Vp-p
1V/5.0msec.cm
REC

7-A IC201-30 3.7Vp-p
1V/5.0msec.cm
REC

IC207 78L09AP 9V REG

Q218 DTC144K(26) PB SW

Q217 DTC144K(26)

Q211 2SC2412KS(BS) REC AMP

CP203 1.4MHz HPF

IC202 HT4957A LUMA PROCESS

IC204 MM1002 VIDEO AMP /SENC SEPA

D203 HSM2838C (A6)

D204 HSM2838C (A6)

D206 HSM2838C (A6)

Q223 DTC144K (26) SW

Q229 DTC144K(26) MESECAM SW

Q228 DTC144K(26) INV.

Q221 FMG2(G2) CAMERA SW

ZD201 MA3075L (7.5L) 7.1-7.4V

ZD202 MA3075L(7.5L) 7.1-7.4V

IC208 NJM2235M INPUT SELECT

IC205 MSM7401RS CCD 1H DELAY

IC206 NJM2228M CLOCK GEN

Q219 2SA1037KR (FR) BUF

Q220 2SC2412KS (BS) BUF

CP201 3.58MHz LPF

CP202 600ns DELAY

RT201 1K-B 1H DELY LINE OUTPUT

TP205

PG905

PG206

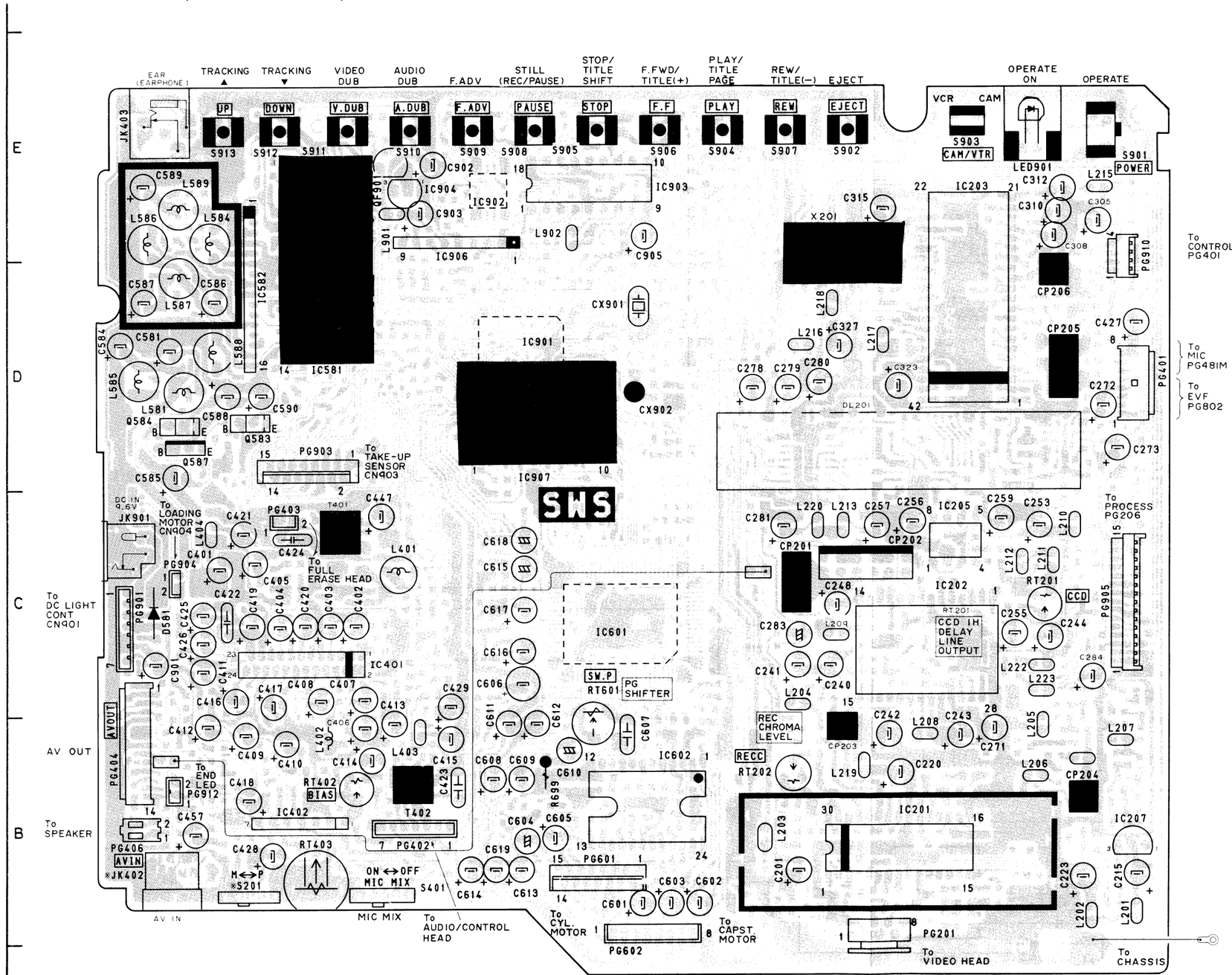
MC-Service

MAIN (LUMINANCE SECTION) P.C.B

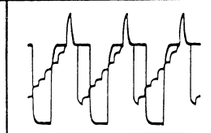
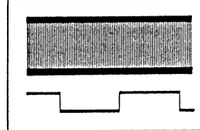
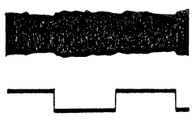
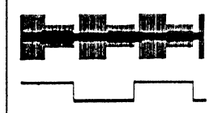
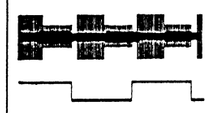
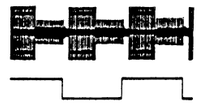
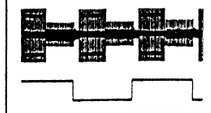
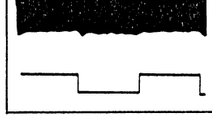
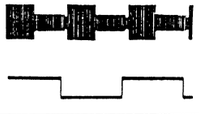
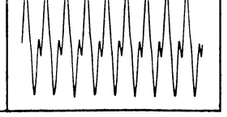
: REC LUMA SIGNAL : PB LUMA SIGNAL : REC CHROMA SIGNAL : PB CHROMA SIGNAL : REC VIDEO SIGNAL : PB VIDEO SIGNAL

LUMINANCE 5-29 5-30 LUMINANCE

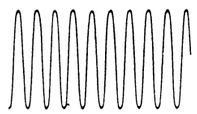
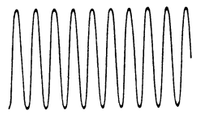
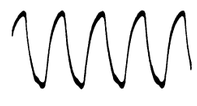
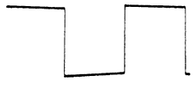
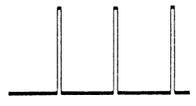
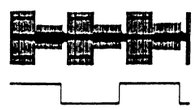
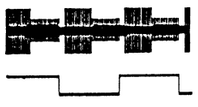
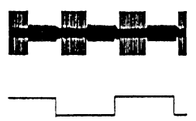
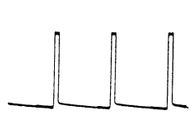
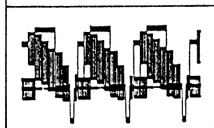
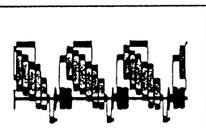
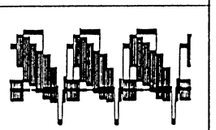
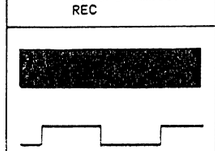
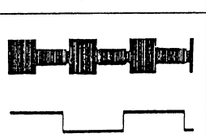
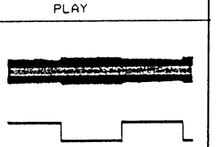
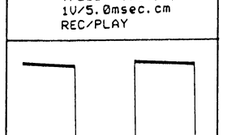
MAIN CIRCUIT BOARD (COMPONENT SIDE)
HAUPT-LEITERPLATTE (BESTÜCKUNGSSEITE)

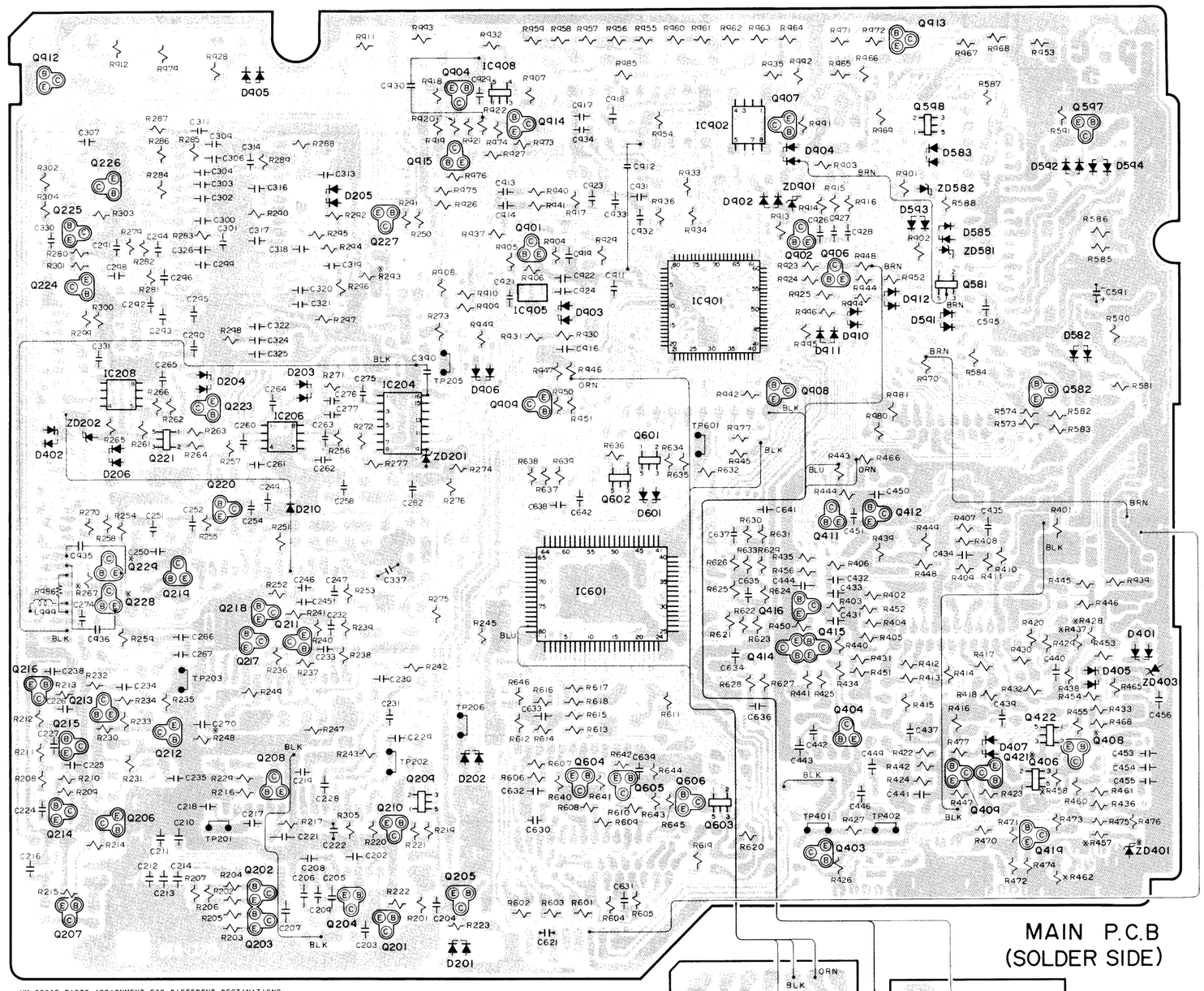


MAIN P.C.B
(COMPONENT SIDE)

8-A IC202-1 3.9Vp-p 1V/20.0μ sec.cm REC/PLAY	9-A IC202-4 550mVp-p 0.1V/20.0μ sec.cm REC/PLAY	10-A IC202-6 560mVp-p 0.1V/20.0μ sec.cm REC/PLAY
11-A IC202-8 1.0Vp-p 0.2V/20.0μ sec.cm REC	11-B IC202-8 2.0Vp-p 0.5V/20.0μ sec.cm PLAY	12-A IC202-11' 1.2Vp-p 0.2V/20.0μ sec.cm REC
		
12-B IC202-11 580mVp-p 0.1V/20.0μ sec.cm PLAY	13-A IC202-14 510mVp-p 0.1V/20.0μ sec.cm REC	13-B IC202-14 300mVp-p 0.1V/20.0μ sec.cm PLAY
14-A IC202-15 1.5Vp-p 0.5V/5.0msec.cm REC	15-B IC202-20 240mVp-p 0.1V/5.0msec.cm PLAY	16-A IC202-22 500mVp-p 0.1V/20.0μ sec.cm REC
		
17-A IC202-25 2.3Vp-p 0.5V/20.0μ sec.cm REC/PLAY	18-B IC202-27 260mVp-p 0.1V/5.0msec.cm PLAY	19-A IC203-1 260mVp-p 0.1V/5.0msec.cm REC/PLAY
		
20-A IC203-4 260mVp-p 0.1V/5.0msec.cm REC	21-A IC203-6 310mVp-p 0.1V/5.0msec.cm REC/PLAY	22-A IC203-8 530mVp-p 0.2V/5.0msec.cm REC
		
23-B IC203-10 340mVp-p 0.2V/5.0msec.cm PLAY	24-A IC203-13 83mVp-p 50mV/5.0msec.cm REC	25-A IC203-23 1.2Vp-p 0.2V/200nsec.cm REC/PLAY
		

MAIN CIRCUIT BOARD (SOLDER SIDE)
HAUPT-LEITERPLATTE (LEITERBAHNSEITE)

E	26-A IC203-24 960mVp-p 0.2V/200nsec.cm REC/PLAY	27-A IC203-25 480mVp-p 0.1V/200nsec.cm REC/PLAY	28-A IC203-27 1.4Vp-p 0.5V/20.0μ sec.cm REC/PLAY
			
D	29-A IC203-28 760mVp-p 0.2V/100nsec.cm REC/PLAY	30-A IC203-30 5.0Vp-p 1V/5.0msec.cm REC/PLAY	31-A IC203-31 3.9Vp-p 1V/20.0μ sec.cm REC/PLAY
			
	32-B IC203-33 820mVp-p 0.2V/5.0msec.cm PLAY	33-B IC203-35 130mVp-p 50mV/5.0msec.cm PLAY	34-B IC203-39 540mVp-p 0.2V/5.0msec.cm PLAY
			
C	35-A IC203-41 130mVp-p 50mV/5.0msec.cm REC/PLAY	36-A IC204-5 4.3Vp-p 1V/20.0μ sec.cm REC/PLAY	37-A IC204-7 2.7Vp-p 0.5V/5.0msec.cm REC/PLAY
			
	38-A IC204-10 2.4Vp-p 0.5V/20.0μ sec.cm REC	38-B IC204-10 2.2Vp-p 0.5V/20.0μ sec.cm PLAY	39-A IC204-12 1.1Vp-p 0.2V/20.0μ sec.cm REC/PLAY
			
B	40-A TP201 170mVp-p 0.1V/5.0msec.cm REC	41-A TP202 110mVp-p 50mV/5.0msec.cm REC	43-B TP203 230mVp-p 0.1V/5.0msec.cm PLAY
			
A	44-A TP206 5.0Vp-p 1V/5.0msec.cm REC/PLAY		
			



VM-3300E PARTS ASSIGNMENT FOR DIFFERENT DESTINATIONS

	R267	R293	Q229	Q228	R248	S201	JK402	R462	R437	R428	R457	Q408	Q406	ZD401	R458
VM-3300E	×	×	×	×	○	×	×	×	×	×	×	×	×	×	○
VM-3300E(AV)	○	○	○	○	×	○	○	○	○	○	○	○	○	○	×
VM-3300E(UK)	×	×	×	×	○	×	×	×	×	×	×	×	×	×	○
VM-3380E(AU)	×	×	×	×	○	×	○	○	○	○	○	○	○	○	×
VM-3380E(AV)	○	○	○	○	×	○	○	○	○	○	○	○	○	○	×

○:PROVIDED ×:NOT PROVIDED

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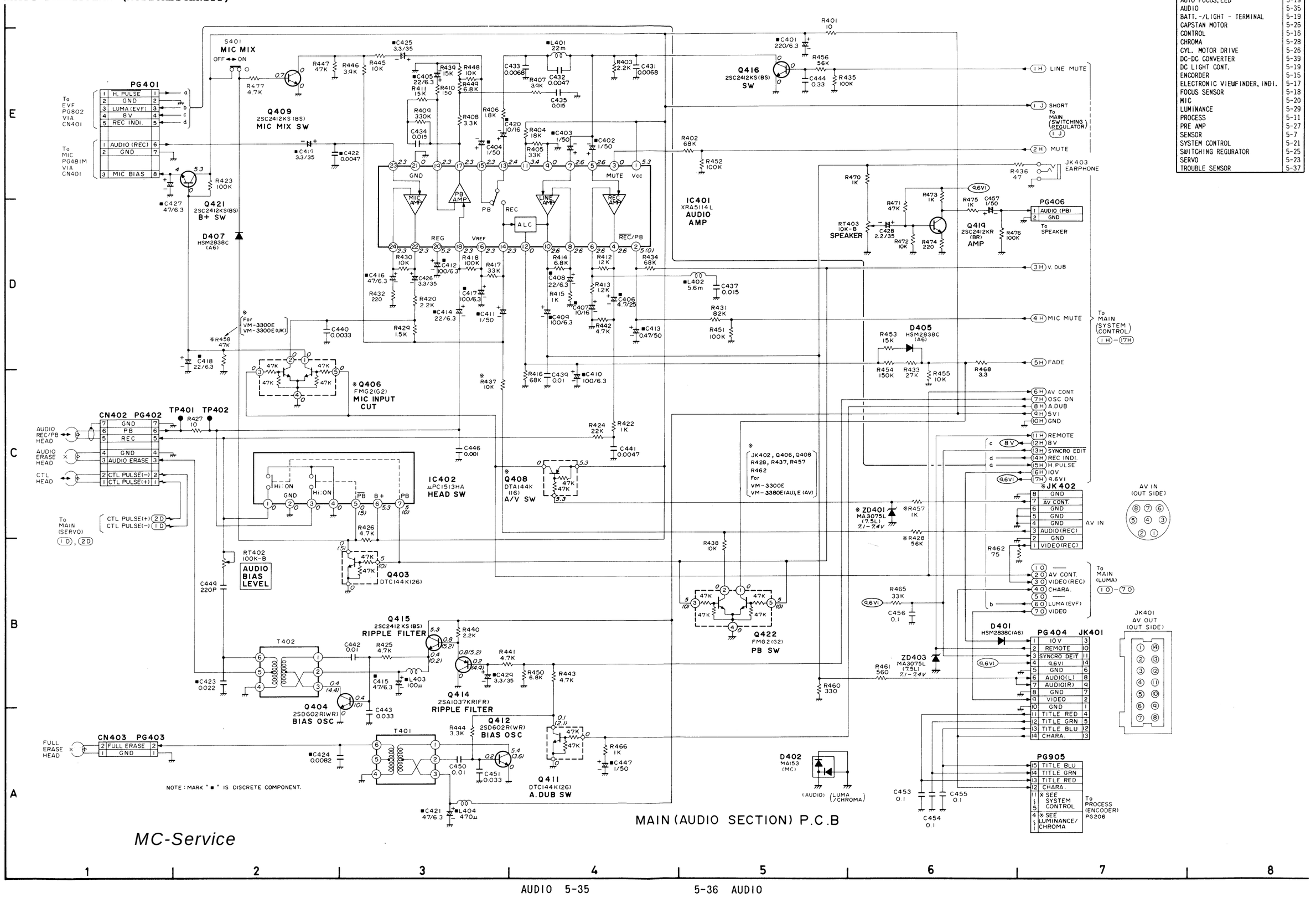
1 2 3 4 5 6 7 8

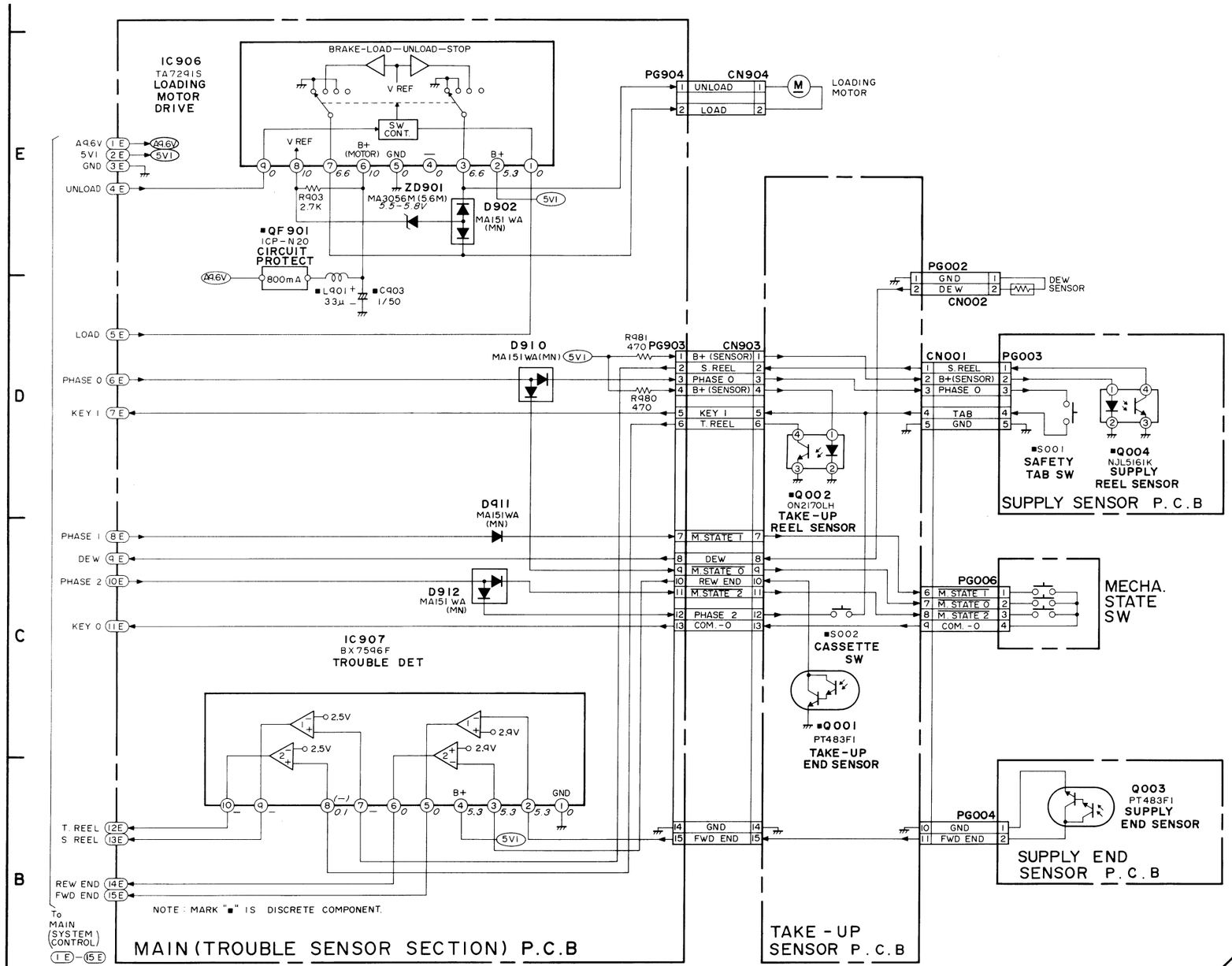
MAIN 5-33 5-34 MAIN

MAIN (AUDIO SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (AUDIOABSCHNITT)

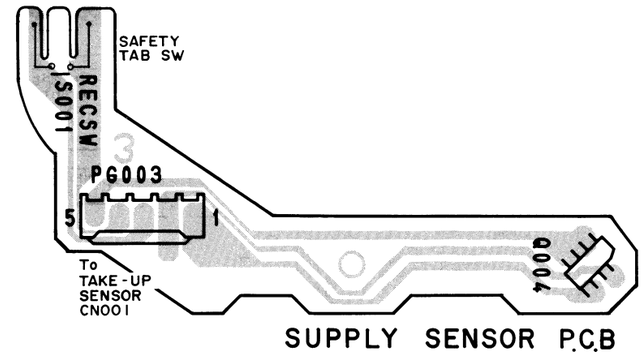
SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19
AUDIO	5-35
BATT. -/LIGHT - TERMINAL	5-19
CAPSTAN MOTOR	5-26
CONTROL	5-16
CHROMA	5-28
CYL. MOTOR DRIVE	5-26
DC-DC CONVERTER	5-39
DC LIGHT CONT.	5-19
ENCORDER	5-15
ELECTRONIC VIEWFINDER, INDI.	5-17
FOCUS SENSOR	5-18
MIC	5-20
LUMINANCE	5-29
PROCESS	5-11
PRE AMP	5-27
SENSOR	5-7
SYSTEM CONTROL	5-21
SWITCHING REGURATOR	5-25
SERVO	5-23
TROUBLE SENSOR	5-37



MAIN (TROUBLE SENSOR SECTION) SCHEMATIC
HAUPT-SCHALTPLAN (STÖRUNGSSENSORABSCHNITT)

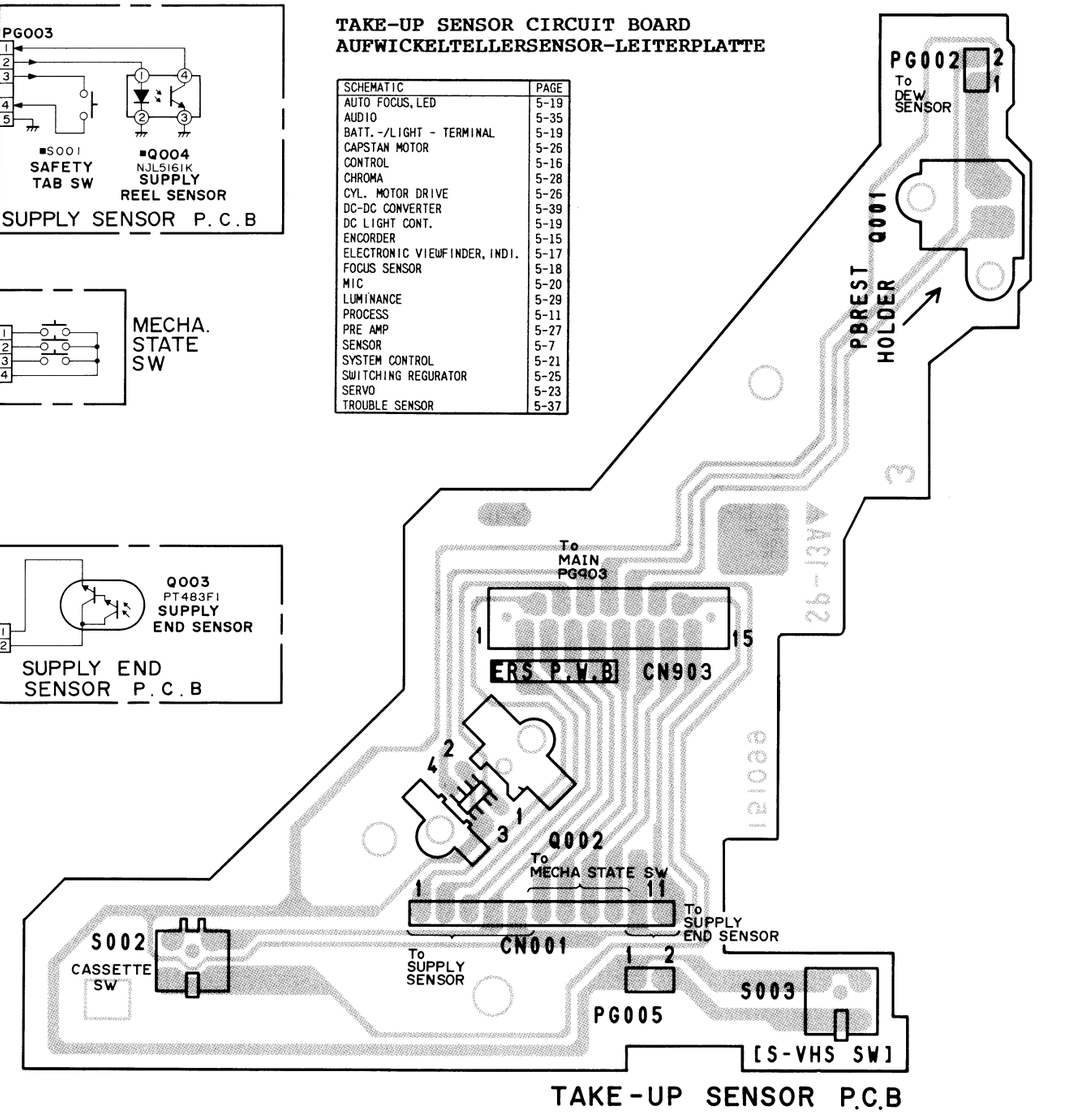


SUPPLY SENSOR CIRCUIT BOARD
VORRATSTELLERSENSOR-LEITERPLATTE

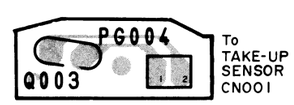


TAKE-UP SENSOR CIRCUIT BOARD
AUFWICKELTELLERSENSOR-LEITERPLATTE

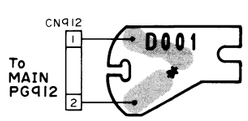
SCHEMATIC	PAGE
AUTO FOCUS, LED	5-19
AUDIO	5-35
BATT. -/LIGHT - TERMINAL	5-19
CAPSTAN MOTOR	5-26
CONTROL	5-16
CHROMA	5-28
CYL. MOTOR DRIVE	5-26
DC-DC CONVERTER	5-39
DC LIGHT CONT.	5-19
ENCORDER	5-15
ELECTRONIC VIEWFINDER, INDI.	5-17
FOCUS SENSOR	5-18
MIC	5-20
LUMINANCE	5-29
PROCESS	5-11
PRE AMP	5-27
SENSOR	5-7
SYSTEM CONTROL	5-21
SWITCHING REGURATOR	5-25
SERVO	5-23
TROUBLE SENSOR	5-37



SUPPLY END SENSOR CIRCUIT BOARD
VORRATSTELLER-BANDENDENSENSOR-LEITERPLATTE



END LED CIRCUIT BOARD
BANDENDEN-LED-LEITERPLATTE



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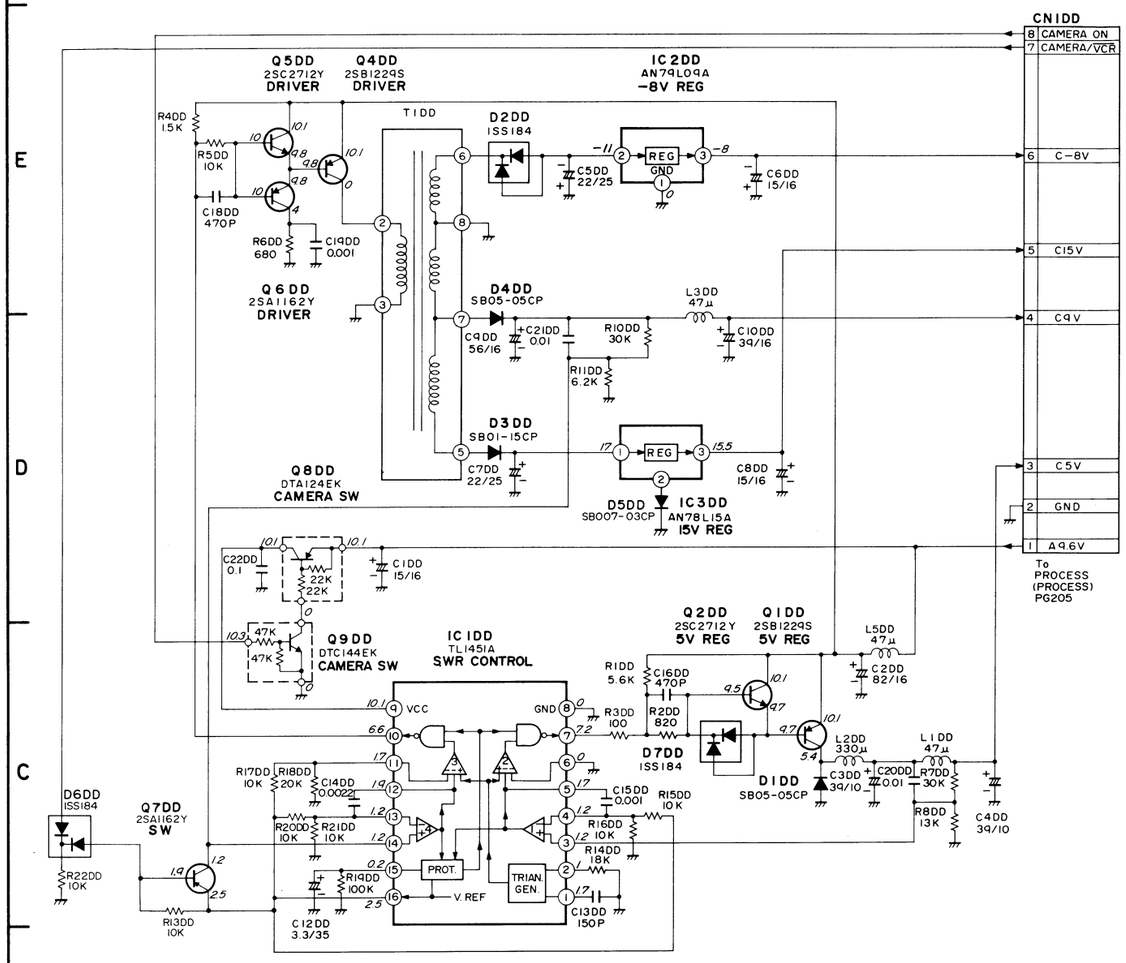
DC-DC CONVERTER SCHEMATIC (Reference)
GS/GS-KONVERTER-SCHALTPLAN (Referenz)

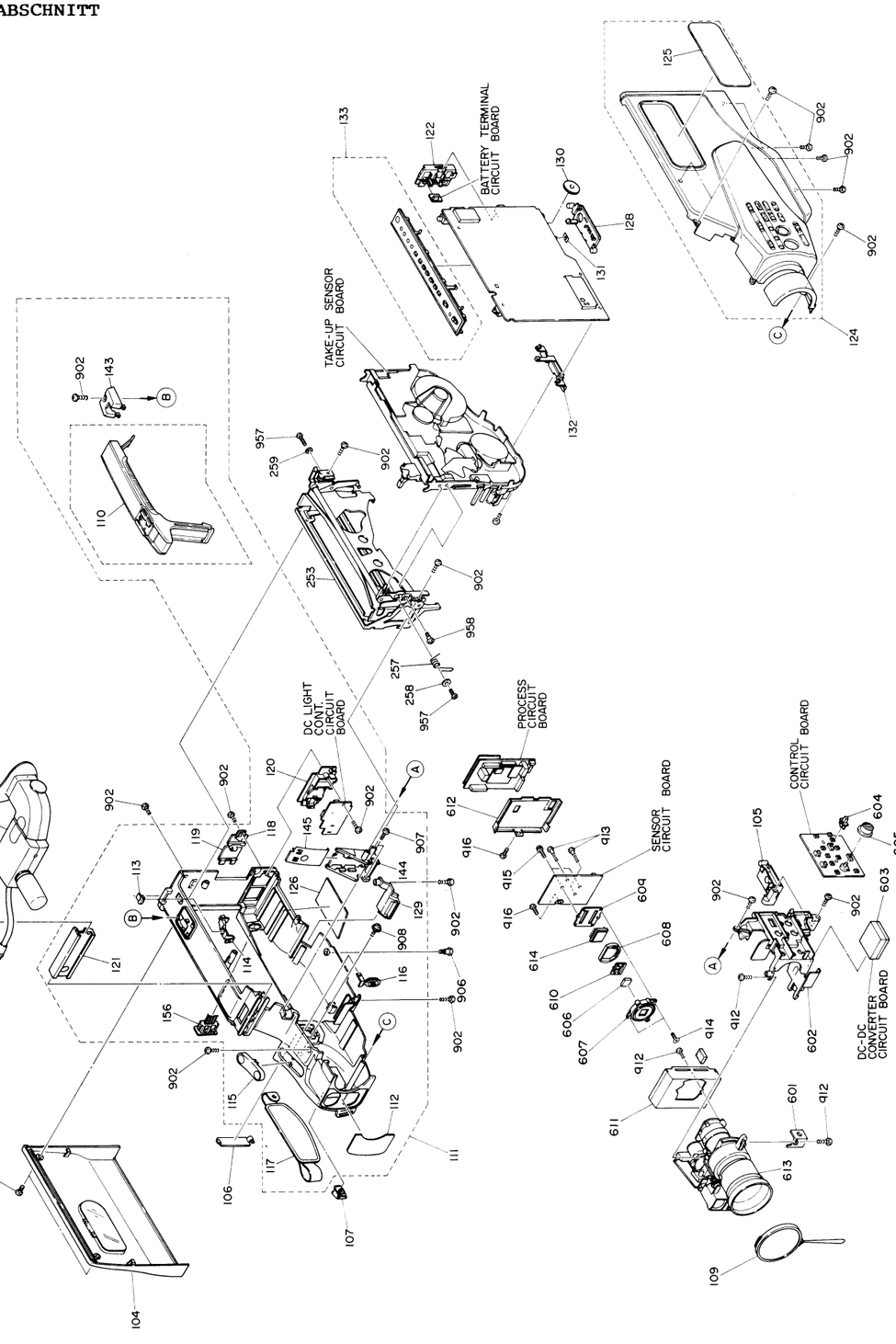


DC-DC CONVERTER P. C. B

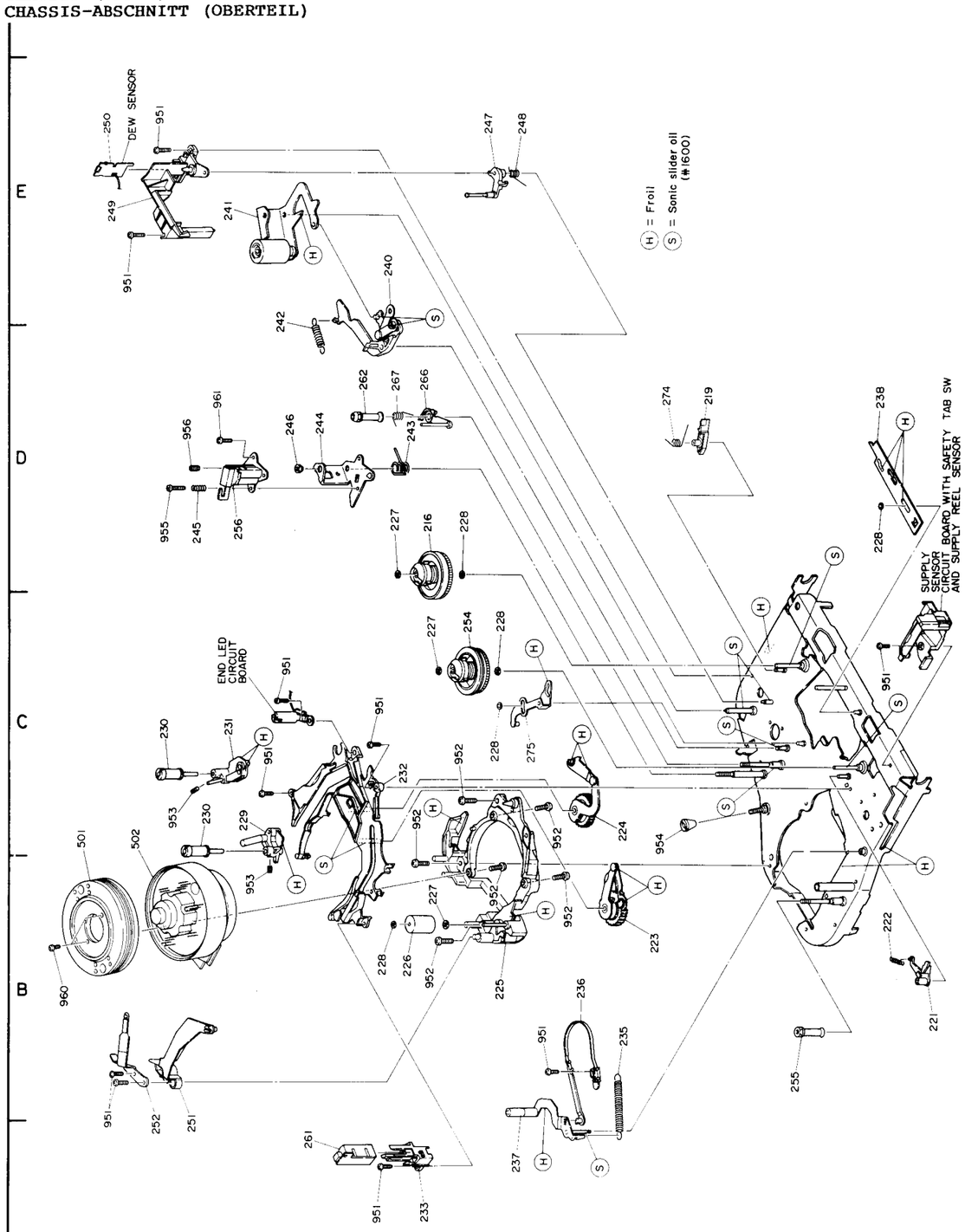
MC-Service

CHAPTER 6 EXPLODED VIEWS
KAPITEL 6 EXPLOSIONSZEICHNUNGEN

CABINET SECTION
GEHÄUSEABSCHNITT



CHASSIS (UPPER) SECTION
CHASSIS-ABSCHNITT (OBERTEIL)


DEW SENSOR
(H) = Froil
(S) = Sonic slider oil (#1600)
END LED CIRCUIT BOARD
SUPPLY SENSOR CIRCUIT BOARD WITH SAFETY TAB SW AND SUPPLY REEL SENSOR

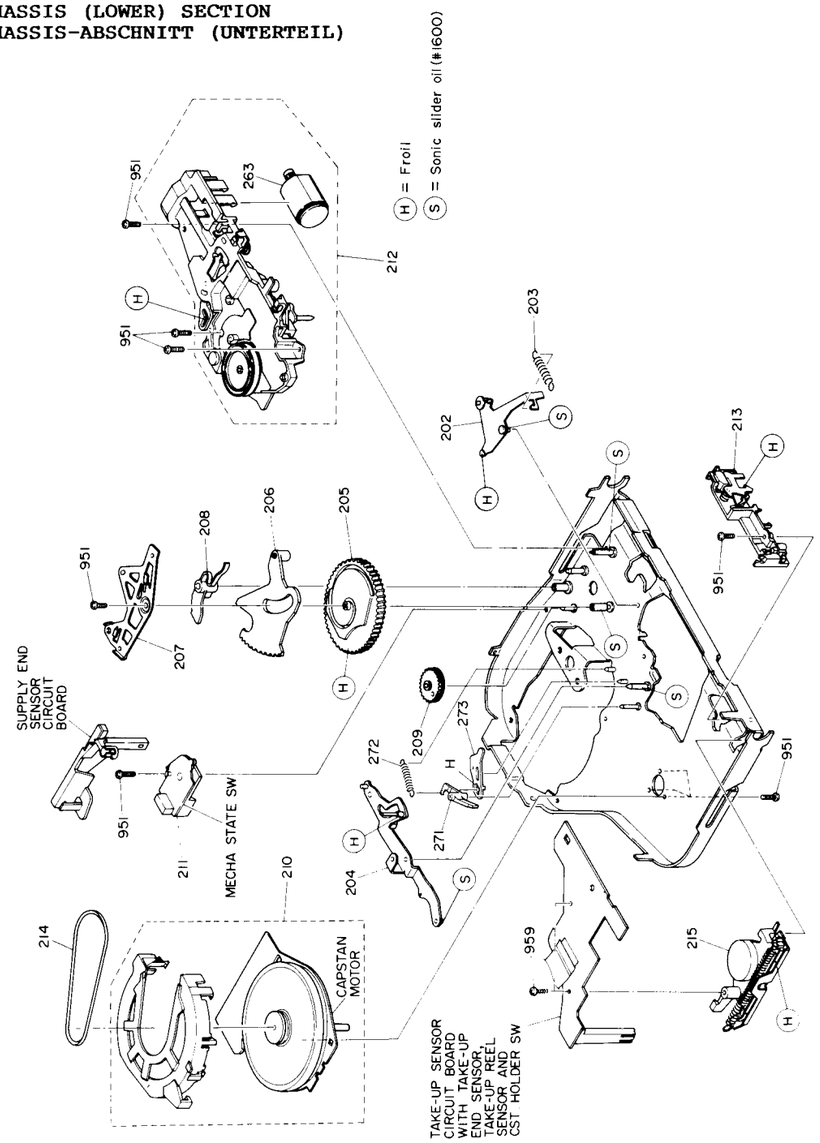
LUBRICATION

Lubrication points are shown in the exploded view diagrams by marks (Ⓢ, Ⓕ).
Lubricants shown in the diagram are as follows.
Ⓢ Sonic slider oil (#1600)
Ⓕ Froil (G31-SAY)

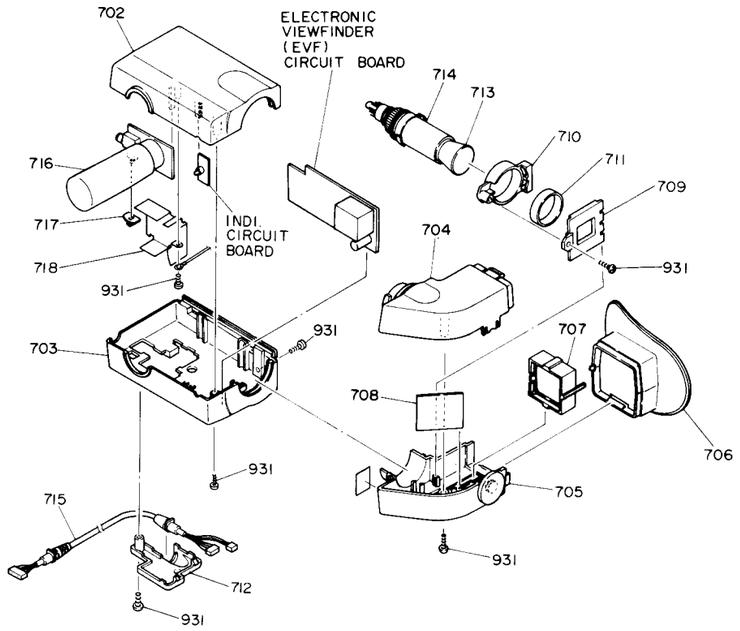
SCHMIERUNG

Die Schmierpunkte sind in den Explosionszeichnungen durch die Markierungen (Ⓢ, Ⓕ) angegeben.
Die folgenden Schmiermittel sind in den Diagrammen angegeben.
Ⓢ: Sonic slider oil (Nr. 1600)
Ⓕ: Froil (G31-SAY)

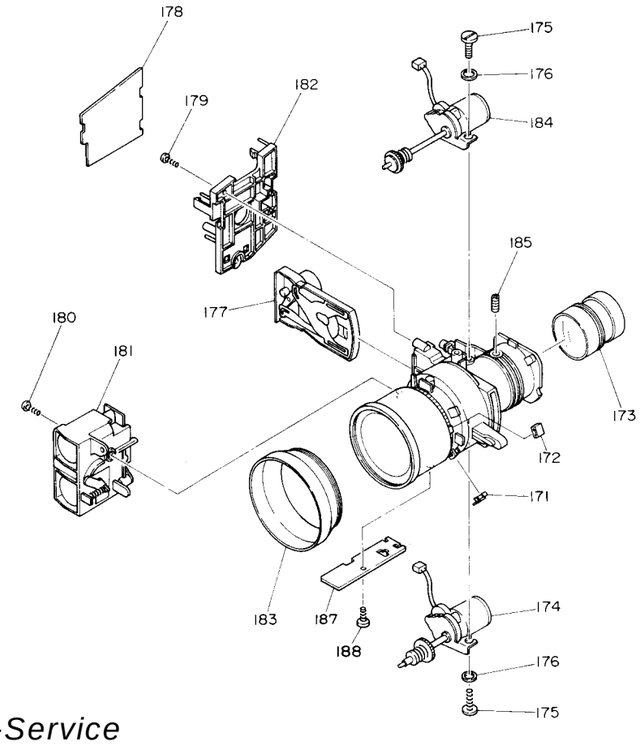
CHASSIS (LOWER) SECTION
CHASSIS-ABSCHNITT (UNTERTEIL)


(H) = Froil
(S) = Sonic slider oil (#1600)
SUPPLY END SENSOR CIRCUIT BOARD
MECHA STATE SW
CAPSTAN MOTOR
TAKE-UP SENSOR CIRCUIT BOARD WITH TAKE-UP END SENSOR, TAKE-UP REEL SENSOR AND CST HOLDER SW

ELECTRONIC VIEWFINDER (EVF) SECTION
ABSCHNITT DES ELEKTRONISCHEN SUCHERS (EVF)



LENS SECTION
OBJECTIVABSCHNITT



MC-Service

6-4

CHAPTER 6 REPLACEMENT PARTS LIST
KAPITEL 6 ERSATZTEILLISTE

SYMBOL-NO	P-NO	DISCRIPTION
		MECHANISM SECTION
104	6487335	LID(FOR VM-3300E, E(AV))
104	6487461	LID(FOR VM-3380E(AV))
105	6185351	FRAME, BOTTOM
106	4710596	LID
107	4710575	CAP, AF
109	6442881	CAP, HOOD
110	6336431	HANDOL ASSY
111	4710823	CASE(R)
112	6249883	CLEAR, AF
113	6070401	KNOB, BATT
114	6810451	LEVER, LOCK
115	4741091	BUTTON
116	4741081	BUTTON
117	6336422	STRAP
118	6487081	LID, FUSE
119	6487071	LID, BATTERY
120	6810711	HOLDER ASSY. BATTERY
121	6439787	SHOE, EVF
122	6017472	TERMINAL
124	4710754	CASE(L)
125	6442971	PAD
126	6442771	PAD
128	6487069	PANEL, AV(FOR VM-3300E(AV))
128	6487066	PANEL, AV(FOR VM-3380E(AV))
129	6810731	STRAP
131	7707011	SPACER(FOR VM-3300E(AV), VM-3380E(AV))
132	6810681	HINGE, CBA
133	4741206	BUTTON
143	6336471	HOLDER
144	6336414	HOLDER, HANDLE
145	6528591	SPRING
156	5886751	SOCKET
171	6960491	STOPPER
172	6960492	RUBBER, STOPPER
173	6960493	LENS, REAR
174	6960494	MOTOR, ZOOM
175	6960495	SCREW(M1.7X4)
176	6960496	WASHER
177	6960497	IRIS BLOCK
178	1616651	PWB ASSY AUTO FOCUS
179	6960499	SCREW(M1.7X6)
180	6960501	SCREW(M2X5.5)
181	6960511	AUTO FOCUS BLOCK
182	6960512	FRMAE
183	6442761	HOOD, LENS
184	6960513	MOTOR, AUTO FOCUS
185	6960514	SCREW
187	1616661	PWB ASSY MACRO SWITCH
188	6960519	SCREW
202	7469131	ARM, LOCK
203	6555791	SPRING
204	7469921	ARM, CAM
205	6440163	GEAR
206	6916111	GEAR
207	7449128	GUIDE
208	6805682	ARM, OPERATION
209	6440172	GEAR
210	5571791	MOTOR, CAPSTAN
211	5610733	SWITCH
212	6820582	BLOCK, LOADING
213	6806077	HOLDER
214	6356622	BELT
215	6806128	SLIDER

SYMBOL-NO	P-NO	DISCRIPTION
216	6887719	TABLE, REEL
219	6820551	BRAKE
221	6806322	BRAKE, SUB
222	6555814	SPRING
223	7448755	GEAR, LORDING
224	7448784	GEAR, LOADING
225	6916141	BASE, CYLINDER
226	6416091	ROLLER, IMPEDANCE
227	7786623	POLYSLIDER WASHER
228	7778859	POLYSLIDER WASHER
229	6911653	BASE, GUIDE ROLLER(I)
230	6324741	GUIDE ROLLER
231	6911673	BASE, GUIDE ROLLER(OUT)
232	6805664	PLATE
233	6806223	BASE, HEAD
235	6555823	SPRING
236	6820992	BAND, TENTION
237	7472871	ARM, TENTION
238	7448855	SLIDER
240	7469941	LINK, PRESSER ROLLER
241	7469903	ARM, PRESSER ROLLER
242	6523244	SPRING
243	6551952	SPRING
244	7448933	ARM, HEAD
245	6523252	SPRING
246	7785673	NUT
247	6911697	ARM
248	6551961	SPRING
250	0173062	DEW SENSOR
251	6820571	GUIDE
252	5793751	BRUSH
253	7472923	HOLDER ASSY CASSETTE
254	6894479	REEL, SUPPLY
255	4521341	GUIDE
256	5443491	HEAD, AUDIO CONTROL
257	6550942	SPRING
258	7789931	WASHER
259	7789951	WASHER
261	5445872	HEAD, FULL ERASE
262	4521342	GUIDE
263	5579112	MOTOR, DC
266	6916122	ARM
267	6552505	SPRING
271	6820621	SPRING
272	6556362	SPRING
273	6820542	SPRING
274	6552493	SPRING
275	7469951	ARM, OPERATION
501	5436279	CYLINDER, UPPER
502	5436374	CYLINDER, LOWER
601	6810821	PICE, BOTTOM
602	6185331	FRAME, LENS
603	5274121	COIL
604	4750211	KNOB, IRIS
605	4750221	KNOB, NR
606	5783141	FILTER, QUARTZ CRYSTAL
607	6810151	LID SENSOR
608	6810161	GUIDE, SENSOR
609	4892681	PLATE
610	4790511	RUBBER
611	7498901	SHIELD, CASE
612	7498791	SHIELD, LID
613	6960193	LENS, ZOOM
614	5318212	CCD IMAGE SENSOR(MN3745FC)
615	7499761	SHEET SHIELD

SYMBOL-NO	P-NO	DISCRIPTION
702	4710002	CASE, UPPER
703	4710321	CASE, BOTTOM
704	4710021	UPPER NECK
705	4710331	BOTTOM, NECK
706	6014322	CAP, EYE
707	6958292	LENS, EVF
708	4892171	MIRROR
709	6814931	COVER, CRT
710	6814921	HOLDER, CRT
711	6597371	RUBBER, CRT
712	6810581	HOLDER, CONNECTOR
713	5319012	CRT
714	5242026	DEFLECTION YOKE
715	5860601	CONNECTOR
716	5420831	MICROPHONE
717	6079411	KNOB, WIND SWICH
718	7498811	PLATE, SHIELD
902	8699308	SCREW (2.6X8) BLACK
905	7784782	SCREW (3X4)
906	7784373	SCREW
907	8691308	BT SCREW-2.6MMDX8MM
908	7775901	SCREW
909	8741106	SCREW (2X6)
912	8691106	SCREW (2X6)
913	8612114	SCREW (2X14)
914	8741104	SCREW (2X4)
915	8652105	SCREW (PSW2X5)
916	8741103	SCREW(2X3B)
931	8699106	SCREW
951	8741106	SCREW (2X6)
952	8741408	SCREW (B3X8)
953	7782616	SCREW
954	6911101	SCREW
955	8741110	BIND SCREW-2MMDX 10MM
956	7782619	SCREW 2X5
957	8741109	SCREW
958	7784371	SCREW
959	8691106	SCREW (2X6)
961	8741104	SCREW (2X4)

VTR SECTION

C 202	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 203	0201098	CERAMIC CHIP 120PF+-5% 50V
C 204	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 205	0209994	CERAMIC CHIP 0.33UF+80-20% 25V
C 206	0209994	CERAMIC CHIP 0.33UF+80-20% 25V
C 207	0209994	CERAMIC CHIP 0.33UF+80-20% 25V
C 208	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 209	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 210	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 211	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 212	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 213	0201088	CERAMIC CHIP 10PF+-0.5PF
C 214	0201096	CERAMIC CHIP 82PF+-5% 50V
C 216	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 217	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 218	0201096	CERAMIC CHIP 82PF+-5% 50V
C 219	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 221	0209994	CERAMIC CHIP 0.33UF+80-20% 25V
C 222	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 224	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 225	0201093	CERAMIC CHIP 33PF+-5% 50V
C 226	0201093	CERAMIC CHIP 33PF+-5% 50V
C 227	0201093	CERAMIC CHIP 33PF+-5% 50V
C 228	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 229	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 230	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 231	0201093	CERAMIC CHIP 33PF+-5% 50V
C 232	0201027	CERAMIC CHIP 47PF+-5% 50V
C 233	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 234	0201029	CERAMIC CHIP 68PF+-5% 50V
C 238	0201010	CERAMIC CHIP 0.022UF+-20% 25V
C 245	0201034	CERAMIC CHIP 180PF+-5% 50V
C 247	0201026	CERAMIC CHIP 39PF+-5% 50V
C 249	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 250	0201092	CERAMIC CHIP 22PF+-5% 50V
C 251	0201096	CERAMIC CHIP 82PF+-5% 50V
C 252	0201092	CERAMIC CHIP 22PF+-5% 50V
C 254	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 258	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 260	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 261	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 262	0201088	CERAMIC CHIP 10PF+-0.5PF
C 263	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 264	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 265	0201010	CERAMIC CHIP 0.022UF+-20% 25V
C 266	0201092	CERAMIC CHIP 22PF+-5% 50V
C 267	0201028	CERAMIC CHIP 56PF+-5% 50V
C 270	0201010	CERAMIC CHIP 0.022UF+-20% 25V
C 274	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 275	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 276	0201029	CERAMIC CHIP 68PF+-5% 50V
C 277	0201041	CERAMIC CHIP 680PF+-5% 50V
C 282	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 290	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 291	0201093	CERAMIC CHIP 33PF+-5% 50V
C 292	0201001	CERAMIC CHIP 22PF+-5% 50V
C 293	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 294	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 295	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 296	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 298	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 299	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 300	0201033	CERAMIC CHIP 150PF+-5% 50V
C 301	0201059	CERAMIC CHIP 0.0033UF+-10% 50V
C 302	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 303	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 304	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 306	0201035	CERAMIC CHIP 220PF+-5% 50V
C 307	0201034	CERAMIC CHIP 180PF+-5% 50V
C 309	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 311	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 313	0201093	CERAMIC CHIP 33PF+-5% 50V
C 314	0201090	CERAMIC CHIP 15PF+-5% 50V
C 316	0201031	CERAMIC CHIP 100PF+-5% 50V
C 317	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 318	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 319	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 320	0201088	CERAMIC CHIP 10PF+-0.5PF
C 321	0201089	CERAMIC CHIP 12PF+-5% 50V
C 322	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 324	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 325	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 326	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 330	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 331	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 337	0201029	CERAMIC CHIP 68PF+-5% 50V
C 423	0204279	POLYPROPYLENE 0.022UF+-5% 10V
C 424	0204271	POLYESTER FILM 8200PF+-5% 100V
C 431	0201062	CERAMIC CHIP 0.0068UF+-10% 50V
C 432	0201061	CERAMIC CHIP 0.0047UF+-10% 50V

SYMBOL-NO	P-NO	DISCRIPTION
C 433	0201062	CERAMIC CHIP 0.0068UF+-10% 50V
C 434	0201008	CERAMIC CHIP 0.015UF+-20% 50V
C 435	0201008	CERAMIC CHIP 0.015UF+-20% 50V
C 437	0201008	CERAMIC CHIP 0.015UF+-20% 50V
C 439	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 440	0201059	CERAMIC CHIP 0.0033UF+-10% 50V
C 441	0201061	CERAMIC CHIP 0.0047UF+-10% 50V
C 442	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 443	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 444	0209994	CERAMIC CHIP 0.33UF+80-20% 25V
C 446	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 449	0201035	CERAMIC CHIP 220PF+-5% 50V
C 450	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 451	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 453	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 454	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 455	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 456	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 595	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 630	0201054	CERAMIC CHIP 100PF+-10% 50V
C 631	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 632	0201072	CERAMIC CHIP 0.047UF+80-20% 25V
C 633	0201073	CERAMIC CHIP 0.068UF+80-20% 25V
C 634	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 635	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 636	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 637	0201035	CERAMIC CHIP 220PF+-5% 50V
C 638	0201054	CERAMIC CHIP 1000PF+-10% 50V
C 641	0201065	CERAMIC CHIP 0.022UF+-10% 25V
C 642	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 911	0201092	CERAMIC CHIP 22PF+-5% 50V
C 912	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 913	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 914	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 916	0201092	CERAMIC CHIP 22PF+-5% 50V
C 917	0201092	CERAMIC CHIP 22PF+-5% 50V
C 918	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 919	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 921	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 922	0201072	CERAMIC CHIP 0.047UF+80-20% 25V
C 923	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 924	0209963	CERAMIC CHIP 0.22UF+80-20% 16V
C 926	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 927	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 928	0201066	CERAMIC CHIP 0.033UF+-10% 25V
C 931	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 932	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 933	0201007	CERAMIC CHIP 0.01UF+-20% 50V
C 934	0201089	CERAMIC CHIP 12PF+-5% 50V
C 935	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 936	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 999	0201065	CERAMIC CHIP 0.022UF+-10% 25V
R 201	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 202	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 203	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 205	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 206	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 207	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 208	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 209	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 210	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 211	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 212	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 213	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 214	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 215	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 216	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 217	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R 219	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R 220	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 221	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R 222	0103824	CHIP RESISTOR 27 OHM+-5% 0.1W
R 223	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 229	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 230	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 231	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 232	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 233	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 234	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 235	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 236	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 237	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 238	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 239	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 240	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 241	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 242	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 243	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 245	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R 247	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R 248	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W (FOR VM-330E)
R 249	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R 250	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 251	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 252	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 253	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 254	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 255	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 256	0104262	METAL FILM 6.8KOHM+-1% 10V
R 257	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 258	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 259	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 261	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 262	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R 263	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 264	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 265	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 266	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R 267	0103855	CHIP RESISTOR 10KOHM+-10% 0.1W (FOR VM-3300E(AV), VM-3380E(AV))
R 270	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R 271	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 272	0103866	CHIP RESISTOR 82KOHM+-5% 0.1W
R 273	0103893	CHIP RESISTOR 75 OHM+-5% 1/8W
R 274	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R 275	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 276	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 277	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 279	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 280	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 281	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 282	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 283	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 284	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 285	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 286	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 287	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 288	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 289	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 290	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 291	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 292	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 293	0103855	CHIP RESISTOR 10KOHM+-10% 0.1W
		(FOR VM-3300E(AV),VM-3380E(AV))
R 294	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R 295	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 296	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 297	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 298	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 299	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 300	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 301	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 302	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 303	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 304	0104262	METAL FILM 6.8KOHM+-1% 10V
R 305	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 401	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 402	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 403	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 404	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R 405	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R 406	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 407	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R 408	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 409	0103873	CHIP RESISTOR 330KOHM+-5% 0.1W
R 410	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W
R 411	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 412	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R 413	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 414	0104262	METAL FILM 6.8KOHM+-1% 10V
R 415	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 416	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 417	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R 418	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 420	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 422	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 423	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 424	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 425	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 426	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 427	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 428	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W (FOR VM-3300E(AV),VM-3380E(AV))
R 429	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 430	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 431	0103866	CHIP RESISTOR 82KOHM+-5% 0.1W
R 432	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 433	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R 434	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 435	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 436	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R 437	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W (FOR VM-3300E(AV),VM-3380E(AV))
R 438	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 439	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 440	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 441	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 442	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 443	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 444	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 445	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 446	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R 447	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 448	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 449	0104262	METAL FILM 6.8KOHM+-1% 10V
R 450	0104262	METAL FILM 6.8KOHM+-1% 10V
R 451	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 452	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 453	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 454	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R 455	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 456	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R 457	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
		(FOR VM-3300E(AV),VM-3380E(AV))
R 458	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W (FOR VM-3300E)
R 459	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 460	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 461	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 462	0103893	CHIP RESISTOR 75 OHM+-5% 0.1W (FOR VM-3300E(AV),VM-3380E(AV))
R 465	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R 466	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 468	0103813	CHIP RESISTOR 3.3 OHM+-10% 0.1W
R 470	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 471	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 472	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 473	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 474	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 475	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 476	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 477	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 573	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 574	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 581	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R 582	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 583	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 584	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 585	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 586	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 587	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 588	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 590	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 591	0104262	METAL FILM 6.8KOHM+-1% 10V
R 601	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 602	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 603	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 604	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R 605	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R 606	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 607	0104262	METAL FILM 6.8KOHM+-1% 10V
R 608	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 609	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 610	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R 611	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 612	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 613	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R 614	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 615	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R 616	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R 617	0103876	CHIP RESISTOR 560KOHM+-5% 0.1W
R 618	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 619	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 620	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 621	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R 622	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 623	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R 624	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 625	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 626	0103868	CHIP RESISTOR 120KOHM+-5% 0.1W
R 627	0103838	CHIP RESISTOR 390 OHM+-5% 0.1W
R 628	0103838	CHIP RESISTOR 390 OHM+-5% 0.1W
R 629	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 630	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 631	0103877	CHIP RESISTOR 680KOHM+-5% 0.1W
R 632	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 633	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 634	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 635	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 636	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 637	0103866	CHIP RESISTOR 82KOHM+-5% 0.1W
R 638	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 639	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 640	0103868	CHIP RESISTOR 120KOHM+-5% 0.1W
R 641	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 642	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 643	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 644	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 645	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 646	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 901	0104262	METAL FILM 6.8KOHM+-1% 10V
R 902	0104111	METAL FILM 10KOHM+-10% 1/10W
R 903	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R 904	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 905	0103873	CHIP RESISTOR 330KOHM+-5% 0.1W
R 906	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 907	0103827	CHIP RESISTOR 47 OHM+-5% 0.1W
R 908	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 909	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 910	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 911	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 912	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 913	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 914	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 915	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 916	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 917	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 918	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R 919	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 920	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 921	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R 922	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R 923	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 924	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 925	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 926	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 927	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 928	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 929	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 930	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R 931	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 932	0104111	METAL FILM 10KOHM+-10% 1/10W
R 933	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 934	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 935	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 936	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 937	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 939	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 940	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 941	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 942	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 943	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 944	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 945	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 946	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 947	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 948	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 949	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 950	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 951	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 952	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 953	0104111	METAL FILM 10KOHM+-10% 1/10W
R 954	0104111	METAL FILM 10KOHM+-10% 1/10W
R 955	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R 956	0103838	CHIP RESISTOR 390 OHM+-5% 0.1W
R 957	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 958	0103838	CHIP RESISTOR 390 OHM+-5% 0.1W
R 959	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 960	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R 961	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 962	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 963	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 964	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 965	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R 966	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 967	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 968	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 969	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 970	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 971	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 972	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W
R 973	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 974	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 975	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 976	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 977	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 979	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 980	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 981	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 985	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R 991	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 992	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 993	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 994	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 995	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 996	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
RT 201	5007432	SEMI VARIABLE 1KOHM
RT 202	5007434	SEMI VARIABLE 4.7KOHM
RT 402	5007438	SEMI VARIABLE 100KOHM
RT 403	5005582	VARIABLE 10KOHM
RT 601	5035052	SEMI VARIABLE 220KOHM
D 001	5380931	LED GL-450
D 201	5337411	DIODE HSM2838C
D 202	5337411	DIODE HSM2838C
D 203	5337411	DIODE HSM2838C
D 204	5337411	DIODE HSM2838C
D 205	5337411	DIODE HSM2838C
D 206	5337411	DIODE HSM2838C
D 401	5337411	DIODE HSM2838C
D 402	5328381	DIODE MA153(MC)
D 405	5337411	DIODE HSM2838C
D 407	5337411	DIODE HSM2838C
D 581	5331671	DIODE DS135D-FA3
D 582	5328302	DIODE MA151WA(MN)
D 583	5337411	DIODE HSM2838C
D 585	5328381	DIODE MA153(MC)
D 591	5328302	DIODE MA151WA(MN)
D 592	5328302	DIODE MA151WA(MN)

SYMBOL-NO	P-NO	DISCRIPTION
D 593	5328302	DIODE MA151WA(MN)
D 594	5328302	DIODE MA151WA(MN)
D 601	5337411	DIODE HSM2838C
D 902	5328302	DIODE MA151WA(MN)
D 903	5337411	DIODE HSM2838C
D 904	5337411	DIODE HSM2838C
D 905	5328302	DIODE MA151WA(MN)
D 906	5337411	DIODE HSM2838C
D 909	5337411	DIODE HSM2838C
D 910	5328302	DIODE MA151WA(MN)
D 911	5328302	DIODE MA151WA(MN)
D 912	5328302	DIODE MA151WA(MN)
D 919	5332542	DIODE A81-04F
D 920	5337411	DIODE HSM2838C
D 999	5330133	DIODE 1S2076 SI 100MHZ 250MW 5NS
IC 201	1341551	IC P2010
IC 202	1370642	IC HT4957A
IC 203	1342491	IC HA118023NT
IC 204	1350801	IC MM1002
IC 205	1361541	IC MSM7401RS
IC 206	1351071	IC NJM2228M
IC 207	5366612	IC TA78L009AP
IC 208	1350411	IC NJM2235M
IC 401	5363323	IC XRA5114L
IC 402	5364201	IC UPC1513HA
IC 581	1371971	IC HT7188
IC 582	1371982	IC HT7187A
IC 601	1351611	IC HD49741
IC 602	1360072	IC XRA6459P1
IC 901	1355293	IC HD404439A06
IC 902	1351601	IC MM1028BF
IC 903	1342131	IC UPD6145C
IC 904	1342423	IC MC147805
IC 905	5307001	IC 052ALRLF
IC 906	5300811	IC TA7291S
IC 907	1380301	PWB ASSY TROUBLE DET(BX7596F)
IC 908	5305822	IC 7S32(E4)
LED 901	5381001	LED SLR-34URC5
Q 001	5324661	TRANSISTOR PT-483F1
Q 002	5333952	PHOTO TRANSISTOR ON2170LH
Q 003	5324661	TRANSISTOR PT-483F1
Q 004	5333391	TRANSISTOR NJL5161K
Q 201	5328973	TRANSISTOR 2SC2412K-BST
Q 202	5328973	TRANSISTOR 2SC2412K-BST
Q 203	5328973	TRANSISTOR 2SC2412K-BST
Q 204	5328793	TRANSISTOR DTC144K-26
Q 205	5328793	TRANSISTOR DTC144K-26
Q 206	5328793	TRANSISTOR DTC144K-26
Q 207	5329981	TRANSISTOR 2SA1036KQ
Q 208	5328973	TRANSISTOR 2SC2412K-BST
Q 209	5326206	TRANSISTOR FMC2
Q 210	5328961	TRANSISTOR 2SA1037KERS
Q 211	5328973	TRANSISTOR 2SC2412K-BST
Q 212	5328973	TRANSISTOR 2SC2412K-BST
Q 213	5328961	TRANSISTOR 2SA1037KERS
Q 214	5328261	TRANSISTOR 2SA1052C(MC) MICRO PACKAGE
Q 215	5328261	TRANSISTOR 2SA1052C(MC) MICRO PACKAGE
Q 216	5328793	TRANSISTOR DTC144K-26
Q 217	5328793	TRANSISTOR DTC144K-26
Q 218	5328793	TRANSISTOR DTC144K-26
Q 219	5328961	TRANSISTOR 2SA1037KERS
Q 220	5328973	TRANSISTOR 2SC2412K-BST
Q 221	5326201	TRANSISTOR FMG2
Q 223	5328793	TRANSISTOR DTC144K-26
Q 224	5328973	TRANSISTOR 2SC2412K-BST

SYMBOL-NO	P-NO	DISCRIPTION
Q 225	5328973	TRANSISTOR 2SC2412K-BST
Q 226	5328793	TRANSISTOR DTC144K-26
Q 227	5328961	TRANSISTOR 2SA1037KERS
Q 228	5328793	TRANSISTOR DTC144K-26 (FOR VM-3300E(AV), VM-3380E(AV))
Q 229	5328793	TRANSISTOR DTC144K-26 (FOR VM-3300E(AV), VM-3380E(AV))
Q 403	5328793	TRANSISTOR DTC144K-26
Q 404	5328351	TRANSISTOR 2SD602R(WR)
Q 406	5326201	TRANSISTOR FMG2 (FOR VM-3300E(AV), VM-3380E(AV))
Q 408	5328795	TRANSISTOR DTA144EK (FOR VM-3300E(AV), VM-3380E(AV))
Q 409	5328973	TRANSISTOR 2SC2412K-BST
Q 411	5328793	TRANSISTOR DTC144K-26
Q 412	5328351	TRANSISTOR 2SD602R(WR)
Q 414	5328961	TRANSISTOR 2SA1037KERS
Q 415	5328973	TRANSISTOR 2SC2412K-BST
Q 416	5328973	TRANSISTOR 2SC2412K-BST
Q 419	5328973	TRANSISTOR 2SC2412K-BST
Q 421	5328973	TRANSISTOR 2SC2412K-BST
Q 422	5326201	TRANSISTOR FMG2
Q 581	5326206	TRANSISTOR FMC2
Q 582	5328961	TRANSISTOR 2SA1037KERS
Q 583	5327331	TRANSISTOR 2SB1240 (R)
Q 584	5327331	TRANSISTOR 2SB1240 (R)
Q 587	1321121	TRANSISTOR 2SD1758(R)
Q 597	5328973	TRANSISTOR 2SC2412K-BST
Q 598	5326206	TRANSISTOR FMC2
Q 601	5326206	TRANSISTOR FMC2
Q 602	5326201	TRANSISTOR FMG2
Q 604	5328973	TRANSISTOR 2SC2412K-BST
Q 605	5328973	TRANSISTOR 2SC2412K-BST
Q 606	5328961	TRANSISTOR 2SA1037KERS
Q 901	5328961	TRANSISTOR 2SA1037KERS
Q 902	5328793	TRANSISTOR DTC144K-26
Q 904	5328973	TRANSISTOR 2SC2412K-BST
Q 906	5328961	TRANSISTOR 2SA1037KERS
Q 907	5328961	TRANSISTOR 2SA1037KERS
Q 908	5328793	TRANSISTOR DTC144K-26
Q 909	1323081	TRANSISTOR 2SA1036K
Q 912	5328793	TRANSISTOR DTC144K-26
Q 913	5328973	TRANSISTOR 2SC2412K-BST
Q 914	5328973	TRANSISTOR 2SC2412K-BST
Q 915	5328973	TRANSISTOR 2SC2412K-BST
Q 919	5321666	TRANSISTOR 2SC2021SE180MHZ 0.3W SILICO
Q 920	5328793	TRANSISTOR DTC144K-26
ZD 201	5337011	DIODE MA3075L
ZD 202	5337011	DIODE MA3075L
ZD 401	5337011	DIODE MA3075L (FOR VM-3300E, VM-3380E(AV))
ZD 403	5337011	DIODE MA3075L
ZD 581	5337012	DIODE MA3056M
ZD 901	5337012	DIODE MA3056M
T 401	5261422	TRANSFORMER, BIAS
T 402	5261482	COIL, BIAS
L 201	5159207	CHOKE COIL 100UH
L 202	5159207	CHOKE COIL 100UH
L 203	5159207	CHOKE COIL 100UH
L 204	5159198	CHOKE COIL 22UH
L 205	5152597	CHOKE COIL 18UH
L 206	5159212	CHOKE COIL 220UH
L 207	5159196	CHOKE COIL 15UH
L 208	5159207	CHOKE COIL 100UH
L 209	5159211	CHOKE COIL 180UH

SYMBOL-NO	P-NO	DISCRIPTION
L 210	5159207	CHOKE COIL 100UH
L 211	5159205	CHOKE COIL 68UH
L 212	5159205	CHOKE COIL 68UH
L 213	5159207	CHOKE COIL 100UH
L 214	5159201	CHOKE COIL 33UH
L 215	5159194	CHOKE COIL 10UH
L 216	5159196	CHOKE COIL 15UH
L 217	5152599	CHOKE COIL 27UH
L 218	5159211	CHOKE COIL 180UH
L 219	5159207	CHOKE COIL 100UH
L 220	5159207	CHOKE COIL 100UH
L 222	5159202	CHOKE COIL 39UH
L 223	5159201	CHOKE COIL 33UH
L 401	5152815	CHOKE COIL 22MH+-5%
L 402	5159111	CHOKE COIL 5600UH
L 403	5159207	CHOKE COIL 100UH
L 404	5159216	COIL, CHOKE 470UH
L 581	5121381	COIL 47UH
L 584	5121382	COIL 100UH
L 585	5121381	COIL 47UH
L 586	5121382	COIL 100UH
L 587	5121381	COIL 47UH
L 588	5121381	COIL 47UH
L 589	5121381	COIL 47UH
L 901	5159201	CHOKE COIL 33UH
L 902	5159202	CHOKE COIL 39UH
L 999	5121381	CHOKE COIL 47UH
X 201	5784551	OSCILLATOR
CP 201	5163553	LC FILTER
CP 202	5163911	DELAY LINE
CP 203	5163932	FILTER
CP 204	5124133	TRAP COIL
CP 205	5162475	BAND PASS FILTER
CP 206	5163353	LC FILTOR
CX 901	5778072	CRYSTAL
CX 902	5778231	CRYSTAL
DL 201	5786231	DELAY LINE
F 901	5721952	FUSE 2A
F 902	5721952	FUSE 2A
JK 402	5694811	MINI JACK
		(FOR VM-3300E(AV), VM-3380E(AV))
JK 403	5671882	MINI JACK
JK 901	5693501	JACK, DC
QF 901	5721942	IC PROTECTER PN20
S 001	5601821	SWITCH
S 002	5635331	SWITCH
S 201	5621551	SWITCH(FOR VM-3300E(AV), VM-3380E(AV))
S 401	5621551	SWITCH
S 901	5635115	SWITCH
S 902	5634884	SWITCH
S 903	5621731	SWITCH
S 904	5634884	SWITCH
S 905	5634884	SWITCH
S 906	5634884	SWITCH
S 907	5634884	SWITCH
S 908	5634884	SWITCH
S 909	5634884	SWITCH
S 910	5634884	SWITCH
S 911	5634884	SWITCH
S 912	5634884	SWITCH
S 913	5634884	SWITCH

CAMERA SECTION

C 101	0201026	CERAMIC CHIP 39PF+-5% 50V
C 102	0202043	CERAMIC DISC 15PF+-5% 50V
C 103	0202043	CERAMIC DISC 15PF+-5% 50V
C 104	0201022	CERAMIC CHIP 15PF+-5% 50V
C 105	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 107	0201022	CERAMIC CHIP 15PF+-5% 50V
C 108	0201022	CERAMIC CHIP 15PF+-5% 50V
C 109	0201004	CERAMIC CHIP 0.0015UF+-20% 50V
C 110	0201004	CERAMIC CHIP 0.0015UF+-20% 50V
C 111	0202054	CERAMIC CHIP 100PF+-5% 50V
C 112	0256161	ELECTROLYTIC 22UF 6.3V
C 113	0256690	ELECTROLYTIC 10UF 16V
C 114	0202049	CERAMIC DISC 47PF+-5% 50V
C 115	0201055	CERAMIC CHIP 0.001UF+80-20% 50V
C 116	0201025	CERAMIC CHIP 33PF+-5% 50V
C 117	0201025	CERAMIC CHIP 33PF+-5% 50V
C 118	0201028	CERAMIC CHIP 56PF+-5% 50V
C 119	0201028	CERAMIC CHIP 56PF+-5% 50V
C 120	0201028	CERAMIC CHIP 56PF+-5% 50V
C 121	0201028	CERAMIC CHIP 56PF+-5% 50V
C 122	0201024	CERAMIC CHIP 27PF+-5% 50V
C 123	0201024	CERAMIC CHIP 27PF+-5% 50V
C 124	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 125	0201072	CERAMIC CHIP 0.047UF+80-20% 25V
C 126	0201063	CERAMIC CHIP 0.0068UF+-20% 50V
C 127	0201072	CERAMIC CHIP 0.047UF+80-20% 25V
C 128	0201072	CERAMIC CHIP 0.047UF+80-20% 25V
C 130	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 133	0201006	CERAMIC CHIP 0.01UF+80-20% 50V
C 134	0201006	CERAMIC CHIP 0.01UF+80-20% 50V
C 136	0201006	CERAMIC CHIP 0.01UF+80-20% 50V
C 137	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 138	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 139	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 140	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 141	0256689	ELECTROLYTIC 10UF 6.3V
C 142	0202127	CERAMIC CHIP 0.01UF+80-20% 50V
C 143	0202054	CERAMIC CHIP 100PF+-5% 50V
C 144	0256689	ELECTROLYTIC 10UF 6.3V
C 145	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 146	0256689	ELECTROLYTIC 10UF 6.3V
C 147	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 148	0202098	CERAMIC CHIP 0.1UF+80-20% 16V
C 149	0201026	CERAMIC CHIP 39PF+-5% 50V
C 151	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 153	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 154	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 155	0202098	CERAMIC CHIP 0.1UF+80-20% 16V
C 157	0256161	ELECTROLYTIC 22UF 6.3V
C 158	0256161	ELECTROLYTIC 22UF 6.3V
C 159	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 160	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 161	0256161	ELECTROLYTIC 22UF 6.3V
C 165	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 170	0256161	ELECTROLYTIC 22UF 6.3V
C 172	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 174	0202054	CERAMIC CHIP 100PF+-5% 50V
C 175	0256685	ELECTROLYTIC 1UF 50V
C 176	0202054	CERAMIC CHIP 100PF+-5% 50V
C 201	0256161	ELECTROLYTIC 22UF 6.3V
C 203	0256160	ELECTROLYTIC 47UF 6.3V
C 204	0256156	ELECTROLYTIC 22UF 16V
C 205	0256708	ELECTROLYTIC 47UF 10V
C 206	0256160	ELECTROLYTIC 47UF 6.3V
C 207	0256156	ELECTROLYTIC 22UF 16V
C 208	0256161	ELECTROLYTIC 22UF 6.3V
C 209	0256754	ELECTROLYTIC 220UF 10V

SYMBOL-NO	P-NO	DISCRIPTION
C 211	0201006	CERAMIC CHIP 0.01UF+80-20% 50V
C 212	0201006	CERAMIC CHIP 0.01UF+80-20% 50V
C 213	0256784	ELECTROLYTIC 330UF 16V
C 215	0256151	ELECTROLYTIC 1UF 50V
C 216	0256784	ELECTROLYTIC 330UF 16V
C 217	0202098	CERAMIC CHIP 0.1UF+80-20% 16V
C 227	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 228	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 229	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 230	0256687	ELECTROLYTIC 3.3UF 25V
C 231	0256151	ELECTROLYTIC 1UF 50V
C 232	0256168	ELECTROLYTIC 33UF 6.3V
C 239	0202048	CERAMIC DISC 39PF+-5% 50V
C 240	0248694	CERAMIC CHIP 270PF+-5% 50V
C 241	0248694	CERAMIC CHIP 270PF+-5% 50V
C 242	0256689	ELECTROLYTIC 10UF 6.3V
CT 101	5058562	TRIMMER 20PF
R 102	0104033	CHIP RESISTOR 470 OHM+-5% 1/16W
R 103	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 104	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R 105	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 106	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 110	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 111	0104056	CHIP RESISTOR 27KOHM+-5% 1/16W
R 112	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 113	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R 114	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R 115	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 116	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 117	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 118	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 119	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 120	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 122	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 123	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 124	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 125	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R 126	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R 127	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 128	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 129	0103815	CHIP RESISTOR 4.7OHM+-10% 0.1W
R 130	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 131	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 134	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 135	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 136	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R 137	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 138	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 139	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 140	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R 141	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 142	0104042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R 143	0104037	CHIP RESISTOR 1KOHM+-5% 1/16W
R 144	0104036	CHIP RESISTOR 820 OHM+-5% 1/16W
R 145	0104024	CHIP RESISTOR 100 OHM+-5% 1/16W
R 147	0104042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R 148	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R 149	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 150	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 151	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R 152	0104028	CHIP RESISTOR 220 OHM+-5% 1/16W
R 153	0104041	CHIP RESISTOR 1.8KOHM+-5% 1/16W
R 154	0104042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R 155	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 156	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 157	0104043	CHIP RESISTOR 2.7KOHM+-5% 1/16W
R 158	0104043	CHIP RESISTOR 2.7KOHM+-5% 1/16W
R 159	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 160	0104044	CHIP RESISTOR 3.3KOHM+-5% 1/16W
R 161	0104047	CHIP RESISTOR 5.6KOHM+-5% 1/16W
R 162	0104042	CHIP RESISTOR 2.2KOHM+-5% 1/16W
R 163	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 170	0104047	CHIP RESISTOR 5.6KOHM+-5% 1/16W
R 171	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 172	0104034	CHIP RESISTOR 560 OHM+-5% 1/16W
R 174	0104059	CHIP RESISTOR 56KOHM+-5% 1/16W
R 175	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 181	0104029	CHIP RESISTOR 270 OHM+-5% 1/16W
R 182	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R 184	0104038	CHIP RESISTOR 1.2KOHM+-5% 1/16W
R 185	0104044	CHIP RESISTOR 3.3KOHM+-5% 1/16W
R 186	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R 187	0104048	CHIP RESISTOR 6.8KOHM+-5% 1/16W
R 188	0104044	CHIP RESISTOR 3.3KOHM+-5% 1/16W
R 201	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 203	0104048	CHIP RESISTOR 6.8KOHM+-5% 1/16W
R 204	0104048	CHIP RESISTOR 6.8KOHM+-5% 1/16W
R 205	0104048	CHIP RESISTOR 6.8KOHM+-5% 1/16W
R 206	0104048	CHIP RESISTOR 6.8KOHM+-5% 1/16W
R 207	0104051	CHIP RESISTOR 10KOHM+-5% 1/16W
R 208	0104046	CHIP RESISTOR 4.7KOHM+-5% 1/16W
R 209	0104055	CHIP RESISTOR 22KOHM+-5% 1/16W
R 210	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 211	0104041	CHIP RESISTOR 1.8KOHM+-5% 1/16W
R 212	0104045	CHIP RESISTOR 3.9KOHM+-5% 1/16W
R 214	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 215	0103828	CHIP RESISTOR 56 OHM+-5% 0.1W
R 217	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R 219	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 221	0103828	CHIP RESISTOR 56 OHM+-5% 0.1W
R 222	0104045	CHIP RESISTOR 3.9KOHM+-5% 1/16W
R 224	0104047	CHIP RESISTOR 5.6KOHM+-5% 1/16W
R 226	0104021	CHIP RESISTOR 56 OHM+-5%
R 227	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 228	0104058	CHIP RESISTOR 47KOHM+-5% 1/16W
R 229	0104083	CHIP RESISTOR 33KOHM+-5% 1/16W
R 230	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R 231	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R 232	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 233	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 234	0104046	CHIP RESISTOR 4.7KOHM+-5% 1/16W
R 235	0104038	CHIP RESISTOR 1.2KOHM+-5% 1/16W
R 236	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R 237	0104053	CHIP RESISTOR 15KOHM+-5% 1/16W
R 238	0104039	CHIP RESISTOR 1.5KOHM+-5% 1/16W
R 239	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R 244	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 245	0104045	CHIP RESISTOR 3.9KOHM+-5% 1/16W
R 246	0104039	CHIP RESISTOR 1.5KOHM+-5% 1/16W
R 248	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R 249	0104044	CHIP RESISTOR 3.3KOHM+-5% 1/16W
R 250	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R 251	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R 252	0104058	CHIP RESISTOR 47KOHM+-5% 1/16W
R 253	0104028	CHIP RESISTOR 220 OHM+-5% 1/16W
R 254	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R 255	0103877	CHIP RESISTOR 680KOHM+-5% 0.1W
R 256	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R 260	0104054	CHIP RESISTOR 18KOHM+-5% 1/16W
R 262	0104072	CHIP RESISTOR 470KOHM+-5% 1/16W

SYMBOL-NO	P-NO	DISCRIPTION
R 263	0104067	CHIP RESISTOR 220KOHM+-5% 1/16W
R 264	0104073	CHIP RESISTOR 560KOHM+-5% 1/16W
R 265	0104021	CHIP RESISTOR 56 OHM+-5% 1/16W
R 266	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R 267	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R 270	0171114	RESISTOR 56KOHM+-5% 1/8W
R 271	0171114	RESISTOR 56KOHM+-5% 1/8W
R 272	0171104	RESISTOR 8.2KOHM+-5% 1/8W
R 401	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 402	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 403	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 404	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 405	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R 406	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 407	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R 408	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R 409	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W
R 410	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 411	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R 412	0103838	CHIP RESISTOR 390 OHM+-5% 0.1W
R 413	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 414	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R 415	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R 416	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R 417	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R 418	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R 419	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R 420	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R 421	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R 422	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 425	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
RT 101	5007466	SEMI VARIABLE 220KOHM
RT 201	5007459	RESISTOR SEMI VARIABLE 2.2K OHM
RT 202	5007461	RESISTOR SEMI VARIABLE 4.7K OHM
RT 203	5007459	RESISTOR SEMI VARIABLE 2.2K OHM
RV 401	5002011	VARIABLE 10KOHM
D 101	5328321	DIODE MA151K (MH)
D 102	5328301	DIODE MA151WK (MT)
D 103	5326021	DIODE MA160-MID
D 104	5328321	DIODE MA151K (MH)
D 105	5328321	DIODE MA151K (MH)
D 106	5328321	DIODE MA151K (MH)
D 201	5328321	DIODE MA151K (MH)
D 401	5381941	DIODE GL1PR111
IC 101	5318212	CCD IMAGE DEVICE (MN3745FC)
IC 102	1351801	IC MN5128
IC 103	1350711	IC MN3107CS
IC 104	5305131	IC TC4SU69F
IC 105	1351581	IC HA118120
IC 106	1350611	IC MN3819S
IC 201	1372112	RESISTOR BLOCK R1911A
IC 202	1372254	IC HT5765C
IC 203	1379035	PWB ASSY HTS5806D
IC 204	5304141	IC HA118003MP
IC 205	1350261	IC NJM2225M
IC 206	5305131	IC TC4SU69F
IC 207	1354202	IC SC7S02F(E3)
Q 102	5326461	TRANSISTOR XN4501
Q 103	5328341	TRANSISTOR 2SD601Y (RS)
Q 104	5326991	TRANSISTOR 2SA1738 (Q/R)
Q 105	1323001	TRANSISTOR 2SC3757 (Q/R)
Q 106	5326991	TRANSISTOR 2SA1738 (Q/R)
Q 107	1323001	TRANSISTOR 2SC3757 (Q/R)
Q 108	5326991	TRANSISTOR 2SA1738 (Q/R)
Q 109	1323001	TRANSISTOR 2SC3757 (Q/R)

SYMBOL-NO	P-NO	DISCRIPTION
Q 110	5328251	TRANSISTOR 2SA1122-CD
Q 111	5328251	TRANSISTOR 2SA1122-CD
Q 112	5328192	TRANSISTOR 2SC2462LD
Q 113	5328192	TRANSISTOR 2SC2462LD
Q 114	5326461	TRANSISTOR XN4501
Q 115	5328251	TRANSISTOR 2SA1122-CD
Q 116	5328192	TRANSISTOR 2SC2462LD
Q 117	5328192	TRANSISTOR 2SC2462LD
Q 201	5326701	TRANSISTOR IMT1
Q 202	5326701	TRANSISTOR IMT1
Q 203	5326703	TRANSISTOR IMZ1
Q 204	5328335	TRANSISTOR 2SB709A-RS-T
Q 205	5328335	TRANSISTOR 2SB709A-RS-T
Q 206	5328335	TRANSISTOR 2SB709A-RS-T
Q 207	5328795	TRANSISTOR DTA144EK-16
Q 801	1323131	TRANSISTOR 2SD968A (R/S)
L 101	5152596	CHOKE COIL 15UH
L 102	5152596	CHOKE COIL 15UH
L 103	5152603	CHOKE COIL 47UH
L 104	5152596	CHOKE COIL 15UH
L 201	5152942	CHOKE COIL 220UH+-10%
L 202	5152612	CHOKE COIL 220UH
L 203	5152594	CHOKE COIL 10UH
X 101	5784731	DELAY LINE
CP 101	5165052	LC FILTER
CP 102	5172491	COIL, TRAP
CP 103	5172043	FILTER, LOW PASS
CP 201	5172491	COIL, TRAP
RM 201	5006414	SEMI VARIABLE 5.4 OHM
SW 401	5634884	SWITCH
SW 402	5634884	SWITCH
SW 403	5634884	SWITCH
SW 404	5634884	SWITCH
SW 405	5634884	SWITCH
SW 406	5634884	SWITCH
SW 407	5634884	SWITCH
SW 408	5634884	SWITCH
SW 409	5635115	SWITCH
SW 410	5634932	SWITCH
SW 411	5634932	SWITCH
SW 412	5634884	SWITCH
SW 413	5634884	SWITCH
SW 414	5634884	SWITCH
SW 415	5621731	SWITCH
SW 416	5621731	SWITCH

ELECTRONIC VIEWFINDER SECTION

C 803	0256155	ELECTROLYTIC 10UF 16V
C 808	0256752	ELECTROLYTIC 3.3UF 63V
C 809	0201997	CERAMIC DISC 0.1UF+80-20% 50V
C 810	0256155	ELECTROLYTIC 10UF 16V
C 811	0201037	CERAMIC CHIP 330PF+-5% 50V
C 812	0201997	CERAMIC DISC 0.1UF+80-20% 50V
C 814	0201069	CERAMIC CHIP 0.1UF+80-20% 25V
C 817	0201061	CERAMIC CHIP 0.0047UF+-10% 50V
C 818	0256151	ELECTROLYTIC 1UF 50V
C 819	0256151	ELECTROLYTIC 1UF 50V
R 801	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R 802	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R 803	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R 804	0103881	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R 805	0103881	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R 807	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 808	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R 809	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R 810	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W

SYMBOL-NO	P-NO	DISCRIPTION
R 811	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 812	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R 813	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R 814	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 815	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 816	0103814	CHIP RESISTOR 3.9OHM+-5% 0.1W
R 817	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R 818	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R 819	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R 820	0103866	CHIP RESISTOR 82KOHM+-5% 0.1W
R 821	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R 822	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
RT 802	5007711	SEMI VARIABLE 470 OHM
RT 803	5007793	SEMI VARIABLE 2.2MOHM
RT 805	5007468	SEMI VARIABLE 1MOHM
D 801	5328321	DIODE MA151K (MH)
D 802	5337321	DIODE MA199
D 803	5380691	LED SLR34UR5
IC 801	1351631	IC HA118121FP
Q 801	1323131	TRANSISTOR 2SD968A (R/S)
Q 802	5328241	TRANSISTOR 2SC2463E(DE)
T 801	5240481	TRANSFORMER, FLYBACK
L 801	5152607	CHOKE COIL 100UH+-10%
L 802	5244011	COIL